TECHNOLOGY DEPT.

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NEW EQUIPMENT DIGEST

MECHANICAL IMPROVEMENTS . . . . NEW PRODUCTS AND MATERIALS . . . . INDUSTRIAL LITERATURE

Vol. 4, No. 2 | CLEVELAND, OHIO, FEBRUARY 1939 | 25c per Copy

Do You Know

Zelan, a new water repellant finish for fabrics, is reported to be unaffected by laundering and dry cleaning.

♦

A chlorinated-rubber speed synthetic which permits fabrication after finishing is said to bake in ½-hour at 250 degrees and oven-dry in 1 hour at 180 degrees; it also may be air-dried. It is flexible, permanent, and free flowing, and is resistant to alcohol, salt-spray and chemicals.

♦

A new plywood, said to be lighter than aluminum and to have flexural strength of 25,000 to 30,000 pounds per square inch, is highly resistant to moisture absorption, has low coefficient of thermal expansion and has fair dielectric properties.

♦

An oil silk cover, said to insure reliable and accurate readings by fully protecting meters, scales, dials and instruments of all kinds, is so transparent that readings may be made without removing.

♦

A new vegetable oil liquid soap with a faint cedar aroma, used from on ordinary dispenser, is said to contain a special solvent for removing heavy grime and grease from the hands.

♦

A moisture detector designed to show when plaster walls, brick or concrete are dry enough for painting and decorating also is claimed to be useful in indicating subsurface moisture and locating leaks through all masonry material ordinarily not seen or felt.

♦

A new primer, called Valdura, is said to eliminate necessity of cleaning surfaces to bare metal before painting. Applied over rust, this liquid is said to penetrate and surround each rust particle, preventing further oxidation.

♦

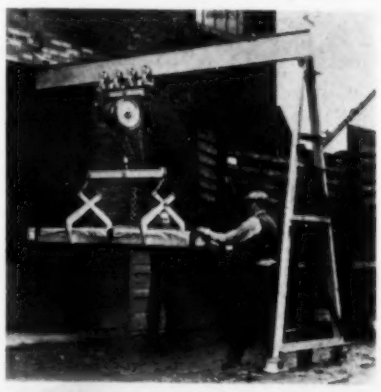
By applying thin chemical films to the surface of glass, glare from reflected light is eliminated. Regardless from what angle pictures, clocks, show cases or windows are viewed, glass so treated, it is claimed, appears as though there was no glass at all.

♦

A new method of treating surfaces of zinc, zinc-coated and galvanized products before finishing is by dipping the product in a solution of a compound called Zinsol. Compound is said to cause surface formation of an alloy, consisting of zinc and another metal, which is chemically inert to moisture and atmosphere so that it forms a stable foundation for the desired finish.

RETRACTIBLE CRANE

This interesting installation saved $150 in handling costs since it was recently put into use by Steel Storage File Co., Cleveland. Steel, received in 3 to 4-ton bundles, is easily taken from delivery trucks spotted beneath the bridge and delivered inside the plant for storage.



Formerly these bundles were broken and sheets passed from the truck through a special door to floor trucks inside. This required full time labor of two men. Unloading and delivery of sheets to fabrication also caused considerable damage to the steel.

With the installation of the illustrated retractible crane, unit loads are taken from trucks by a long-type grab, suspended from a chain hoist mounted on an 8-wheel trolley. Original bundles are not disturbed until conveyed in position at the machines where they are broken and individual sheets taken out.

Crane is mounted on a hinge above doorway where it meets track leading into the plant. The hinged supporting structure rests upon concrete blocks sunk in the drive. When not in use, the whole crane is drawn up against the building. Made by **American Monorail Co.**, 13107 Athens avenue, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3720** when writing

Trend Is Toward Greater Efficiency

USE OF THE Walsh-Healey act by the department of labor as a club to force arbitrary increases in wages at many steel plants is giving wide concern to all types of manufacturers all over the country. Many of them fear this is only a beginning and that the ruling on steel wages may be followed later by rulings as to what government contractors in other industries will have to pay their workers.

In general, the ruling is seen as compelling intensification of effort to utilize highly paid labor with the greatest possible economy. Manufacturers in all lines of industry continue to devise ways and means of increasing efficiency so as to counterbalance the high unit wage rates. This trend will continue pronounced as long as labor and politicians are on record as insisting that unit wages are "frozen."

Your roving reporter finds the spirit of business confidence that prevailed earlier in the new year has not abated. Quite generally manufacturers are looking to 1939 for a larger volume. Based on these expectations, new manufacturing facilities are springing up here and there all over the country and in many types of industry. The forecast in the January issue of NEW EQUIPMENT DIGEST that industrial construction would show a gain of 30 per cent in 1939 now appears conservative.

Shows Increasing Demand

Various indices demonstrate that demand for so-called capital goods is accelerating. This trend is revealed by sharp upward movements in the curves for both machine tool and foundry equipment orders.

Important in recent conclusions of interest to manufacturers is that at least one of the state unemployment compensation laws, that of Wisconsin, has been less onerous to business than originally feared. More than 1000 employers in that state will reduce their tax costs under this law by $1700 on every $100,000 of payroll during 1939. These manufacturers, by using ingenuity and initiative, have been able to stabilize employment to a very surprising degree.

NED's reporter is impressed with what a Wisconsin toy maker did.

The toy industry suffers annually a sharp reduction in demand for its products and consequently in the amount of its employment. Realizing that this would mean a high cost under the unemployment compensation law, this manufacturer looked around to see what products he could add to his line that would smooth out the production curve. He decided on bicycles as a product that would fit much of his machinery and his sales organization. Today the low point in the curve for his yearly production is not due to falling off in his toy business but rather to falling off in his bicycle business. But, on the whole, he now has fairly uniform operations and is in a good position with reference to the unemployment compensation law.

This manufacturer, as well as a good many other Wisconsin manufacturers, has been able to provide more hours of work per year as a result of adjustments forced by this law.

Unfortunately, the profit outlook for industry is not as rosy as is desired. This is because of a general disinclination against raising prices on manufactured goods, while at the same time costs are high and certain cost items show a disposition to rise further.

Under these circumstances, it is the earnest hope of the editors that the many new tools, materials and accessory items described in this issue will show forward-looking plant men how they can further reduce costs and otherwise greatly improve their position.

Read Carefully
CHECK AND PASS ON

Check	NAME and TITLE	See Item No.

IN THIS ISSUE

New Applications 20
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Inquiry Blank ..... Between 4-5

PHOTORECORD INSTRUMENT

For years, business has felt the need for an inexpensive method of preserving records, correspondence, checks and the like in space-saving form at low cost. And now with social security records and employe insurance data to keep, the need has become more evident. Microphotography has made it possible to record such material on film. And a new invention, the Photorecord places this service within reach of all having a great need for it.

The instrument reduces contents of 32 filing cabinet drawers to one drawer in film form. In addition it inexpensively facilitates method of identification and personnel control so employes' pictures and passes may be made with ease.

Mechanism of the device is easily understood. Light in weight, it combines everything necessary to photograph anything occupying a relatively flat plane up to and including a full newspaper page. It produces 800 double or 1600 single frame pictures on a single loading of 100-foot 35 millimeter film.

Operation is through a foot pedal. Each time pedal is pressed down, film is positioned, lights turned on from half to full photoflood intensity and shutter actuated. So simple is its operation that 500 to 1000 exposures per hour may be made. Made by **Folmer Graflex Corp.**, Rochester, N. Y. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3721** when writing

Mercury winch equipped Hydraulic lift trucks make handling of dies and machinery an easy task.

The power winch with conveniently disposed cable sheaves and the accurate hydraulic control of platform movement make placing and removing of dies a safe, fast operation.

Mercury "Die-handlers" are available in capacities up to 10,000 lbs. and subject to variation in platform size and elevation. Request data.

MERCURY TRACTORS • TRAILERS • LIFT TRUCKS
MANUFACTURING CO.
4128 SOUTH HALSTED ST · CHICAGO, ILLINOIS

Mention Item **NED-3722** when writing

SURFACE GRINDER DUST COLLECTOR

Attaches to any Surface Grinder or other Dust Creating Device Machine.

May set on wall shelf, attached to ceiling or pillar, or stood on the floor beside or behind the Grinder.

Quicker and better work can be done where the grinding dust is automatically sucked.

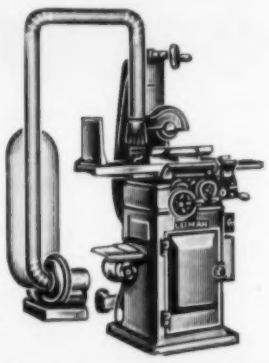
Prevents abrasive getting into moving parts to cause wear.

Dust breathed into your lungs daily is too big a price to pay to be without this health protector.

GET ONE TODAY!

The cost will average a very few pennies a day—too little to even consider.

AVOID DUST-LUNG DISEASE
AVOID LAW SUITS



With this Dust Collector, your surface grinder will remain clean. Without it, it will be covered with abrasive dust. Think of what that sharp, abrasive dust does to your lungs. This is the cause of that dreaded disease called silicosis. Right now the courts are full of lawsuits, started by employees, who have contracted silicosis from working where suitable dust collectors were not installed.

LEIMAN BROS., Inc., 2T-23 Walker St., New York
Makers of Good Machinery for 50 Years

Mention Item **NED-3723** when writing

FOR LOWER OPERATING COST, MORE EFFECTIVE
"COLOR CORRECTIVE" LIGHTING

NEW
BENJAMIN

DAYLITER UNIT

For Fluorescent "Daylight" Lighting

This new Benjamin unit was especially designed to operate with the new fluorescent type lamp. It provides greatly improved illumination for those localized operations requiring light with "color corrective" qualities.

With this new unit "Daylight" lighting is improved four ways. *First*, never before has it been possible to produce at this low cost "Daylight" illumination of such high quality; *second*, this improved "Daylight" lighting is produced without the usual absorption waste necessary when incandescent lights were corrected for this purpose; *third*, the new lamp has a much lower surface brightness and *fourth*, generates practically no radiant heat, hence units may be mounted low over the working plane without discomfort to worker.

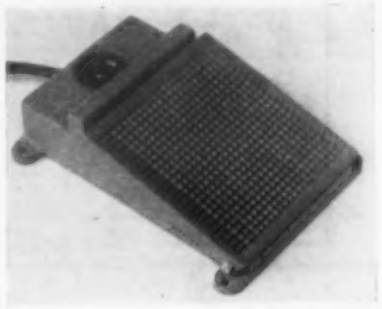
Designed for lighting of localized operations. See your electrical contractor or address the Benjamin Electric Mfg. Co., Des Plaines, Illinois.

BENJAMIN
LIGHTING EQUIPMENT
Distributed Exclusively Through Electrical Wholesalers.

Mention Item **NED-3724** when writing

FOOT CONTROL UNIT

This foot control switch for unit motor powered machines and tools enables the operator to have both hands free to handle work properly. Serving as a third hand, the control requires no conscious effort to operate. The foot plate is large enough to be located easily without taking the eyes away from the work, and the angle of operator's foot is natural and untiring.



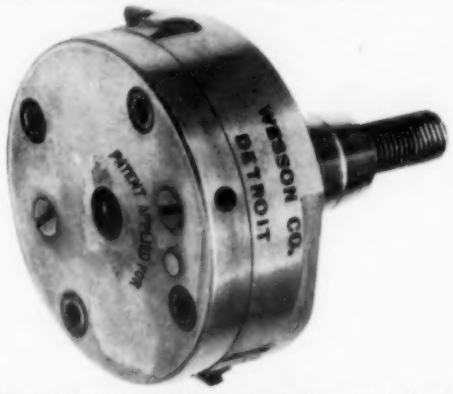
The power tool motor runs as long as the foot is on the control. To inspect work, or in case of emergency the simple and quick removal of foot automatically stops motor.

The unit is supplied with receptacle and eight feet of heavy duty cord and plug. Made by **Leeds Electric & Mfg. Co.,** 1840 Broad street, Hartford, Conn. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3725** when writing

COLLAPSIBLE BORING HEAD

A fully automatic collapsible boring head with two or more blades, positive in action is a late development. Although especially adapted for cylinder boring, this automatic boring head will produce more accurate and better finished holes in sleeves



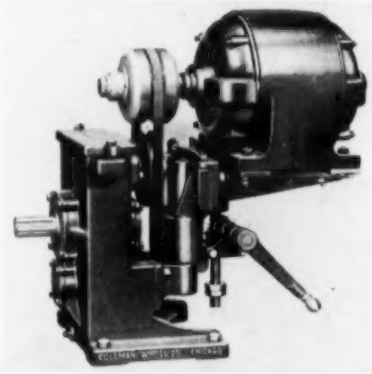
or in any other hole where precision and finish is required.

With the use of the collapsible boring head on finish boring automobile cylinders it will produce increased accuracy in size, roundness and straightness, high quality of finish, high production because of increased feed made possible by usage of the double point cemented carbide tools, less tool wear because of the elimination of the stopping or positioning of spindles and indexing part to prevent scoring of cylinders on return stroke. Made by **Wesson Co.,** 1050 Mt. Elliott avenue, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3726** when writing

VARIABLE SPEED REDUCER

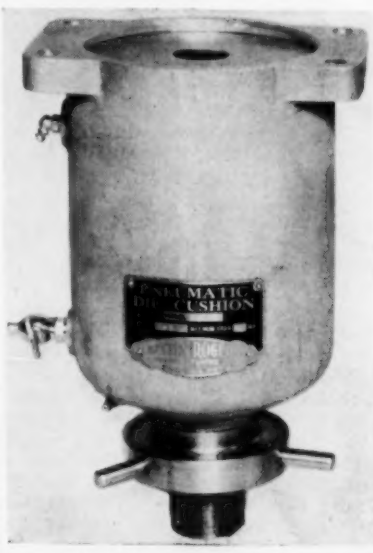
The variable speed reducer shown here is made for motors from ¼ to 3 horsepower. Variations in speed are possible from 1 to 1, 2 to 1 and in some cases up to 2 8/10 to 1. The speeds can be varied on the machine when in operation. The speed is increased or decreased by the raising and lowering of the motor. This is done by means of a crank. Made by **Cullman Wheel Co.,** 1344 Altgeld street, Chicago. For convenience, use blank between pages 4 and 5.



Mention Item **NED-3727** when writing

PNEUMATIC DIE CUSHIONS

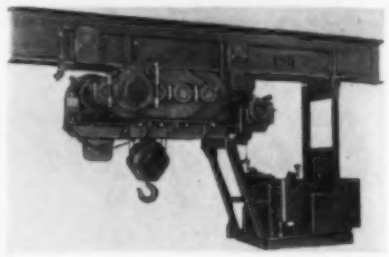
These new model B pneumatic die cushions, with hollow steel stems, are now made in seven sizes, having piston diameters from 4 to 14 inches. This hollow piston stem design allows the scrap slugs to fall through the cushion cylinder which makes the new design adaptable to both combination blanking, drawing, and piercing, as well as to stripper control action on all compound blanking and piercing dies. No tanks are necessary for all standard drawing operations. The cushion cylinders may be mounted direct to the bottom side of bolster plate or to the bottom of the bed frame of the average inclinable or straight side punch press. The correct height of the strippers on compound blanking dies, as well as the draw rings on drawing dies, is always maintained by the hand wheel adjustment feature. Made by **Dayton Rogers Mfg. Co.,** 2830 South Thirteenth avenue, Minneapolis. For convenience, use blank between pages 4 and 5.



Mention Item **NED-3728** when writing

ELECTRIC HOIST

Illustrated here is a heavy duty, two motor, cab controlled hi-lift electric hoist which is built in capacities from 5 to 15 tons. It is built for severe service and is provided with an all steel frame. It uses a cast gear housing, horizontally split and of oil tight construction.



Included are Hyatt roller bearings through hardened steel spur gears and a removable mechanical load brake. This load brake can be removed from the hoist without disturbing the hoist gear case cover, and the friction disks, and can be replaced within a few minutets time.

The hoist is furnished with a frame motor with alternating or direct current and with a mechanical load brake in the hoist gear train as well as an electric brake on the hoist motor and a foot operated brake on the travel motor. Made by **Northern Engineering Works,** 210 Chene street, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3729** when writing

A PLIANT WALL
of Man-made Rubber—Reduces Glove Costs—Safeguards Hands

Important manufacturer writes: "Stanzoil Neoprene Gloves, used daily in naphtha, last 7 times longer than do ordinary rubber gloves."

More Protection
Longer Wear
Lower Cost

• Stop injury or annoying discomfort to employees by changing now to Stanzoils. These *new* Gloves protect hands, even when immersed in oils, gasoline, kerosene, tetrachloride and other liquids which quickly destroy natural rubber.

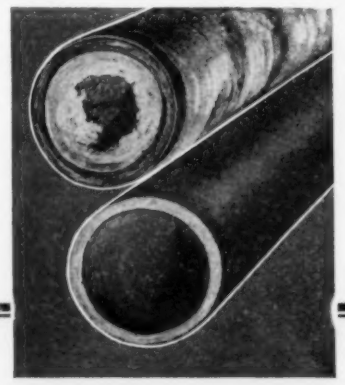
With Stanzoil Gloves, made of DuPont Neoprene, you not only prevent many industrial injuries but prolong useful life of gloves—thus reducing your glove costs.

Stanzoil Gloves provide a sound way for you to *make* more money—*reduce* accident hazard, *increase* production, *improve* production. Literature and generous trial offer will be sent by next mail. *Write Today.*

STANZOIL PIONEER
The Pioneer Rubber Co., Willard, Ohio, U. S. A.
New York • Chicago • Los Angeles
MADE WITH DU PONT NEOPRENE

Mention Item **NED-3730** when writing

YOU'RE BOTH **JUDGE** *AND* **JURY**



Our offer is simple. We guarantee that BROOKS ALUMINA WATER CONDITIONER will remove scale and corrosion from boilers. Our field engineers survey individual conditions in your plant, suggest treatment for high and low pressure boilers, AND LEAVE IT TO YOUR OWN JUDGMENT. We supply you with our water conditioner for use over sixty days. If you are not FULLY SATISFIED, we TEAR UP THE BILL! You can't lose by writing for details.

BROOKS OIL COMPANY
EST. 1876
CLEVELAND, OHIO

Mention Item **NED-3731** when writing

HUGE FORGING PRESSES

Forging presses of 2000 ton capacity as illustrated, have been placed in operation in the forge plants of two large automobile companies. They are being used for forging of rear axle ring gears and a variety of smaller forgings in multiples from prerolled blanks.

Exceptionally heavy solid frame sections, designed on the same principle as rolling mill housings make it possible to hold the forgings produced to very close limits. On classes of work where moderate operating speeds are desirable, presses are built with two stage reduction gearing. Where higher speeds are required, in excess of 50 strokes per minute, single stage gearing is used.

In actual production, one of these presses with single stage gearing has performed on a schedule of 740 operating strokes per hour, or an average of more than 12 clutch engagements per minute. Made by **Ajax Mfg. Co.,** Euclid Branch Post Office, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3732** when writing

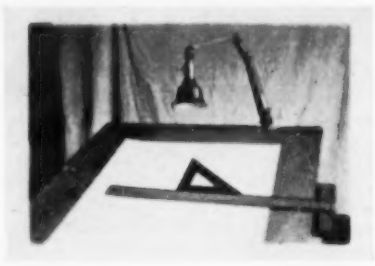
SOAP DISPENSER

Attractive in either white or cream lacquer finish which does not chip, the body of this dispenser is of heavy pressed steel with large capacity. It fastens flush to the wall with concealed screws. Removal or tampering by unauthorized persons is further prevented by locking device operated by a key. Single operation of the plunger releases a measured quantity of powder. Made by **Utility Co. Inc.,** 636 West Forty-fourth street New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3733** when writing

LIGHTING FIXTURE

Variable tension universal joints permit the industrial lighting fixture illustrated to be completely flexible, yet provide sufficient rigidness to maintain the desired position regardless of machine vibration.



Designed originally for all types of machine and bench lighting its application has been found suitable also for drafting boards. Since position adjustment is almost unlimited, both glare and shadows can be controlled, and the adjustable tension feature of the universal joints make the fixture sag proof.

These fixtures may be assembled by either the manufacturer or the purchaser. Made by **American Fixture Co.,** 764 North Plankinton street, Milwaukee. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3735** when writing

ALUMINUM LADDER

A warehouse, platform type ladder which may be used industrially in many ways to speed up handling and storage of products on shelves and bins has been announced recently. Casters on back of legs make it easy to move from place to place.

This new ladder designated as solid type No. 206 is made of aluminum. Although the ladder itself weighs only 43 pounds, it will support a load of a thousand pounds. Aluminum ladders will not rust, are ruggedly riveted together, easily cleaned, nonsparking and are available in almost any dimension to meet particular needs. Made by **Aluminum Ladder Co.,** 141 Fifth avenue, Tarentum, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3736** when writing

PAPER DRILLING MACHINE

The paper drilling machine shown here has been produced to provide a machine that fills the gap between hand lever drills and heavy duty models. This machine is of foot power type. It is particularly designed to meet the needs of the shop that has too much work for a hand power model and not enough to justify investment in a heavier machine. In this machine the ball bearing spindle is motor powered, but the drilling head is pulled down through the stock by foot pressure.

Featured on this Mf drill is a 6-stop back gage with an automatic trip. Device automatically trips the side guide after each hole is drilled. The operator keeps both hands on the stock and does not have to remove them until all holes are drilled and he is ready to change piles of paper.

The drill will take up to 2 inches of stock in one lift and will drill holes from ⅛ to ½-inch in diameter with center distances up to 18 inches. Made by **Challenge Machinery Co.,** Grand Haven, Mich. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3737** when writing

CHARGE CONTROL UNIT

Operation of this charge control unit is based on the fact that as a battery approaches full charge it begins to gas appreciably, while at the same time the cell voltage rises rapidly. This rise in voltage is an indication that the battery is nearly charged without having measured the amount of discharge. If this point in the charge is recognized, it remains to provide means for controlling the completion of the charge and later the cut-off. These functions are performed by the charge control unit automatically.

The unit consists of a metal case designed to mount on the charging panel. On the hinged door or cover of the case is a combination name plate and instruction plate, a dial with a hole through which protrudes a knob for resetting the timeswitch, and two colored domes.

When unit is mounted on the panel and connected to the charging circuit controls, to start the recharge of the battery one inserts charging plug and resets the control knob. When this is done, the white signal lamp lights up and remains on, to show that the battery is on charge. When the charge is complete and the circuit automatically cut off, the white light goes out and the green light comes on to signal that the battery is completely recharged and ready for use. Made by **Electric Storage Battery Co.,** Allegheny avenue and Nineteenth street, Philadelphia. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3738** when writing

STA-WARM HEATERS CUT COSTS... IN PROCESSES REQUIRING IMPREGNATING IN HEATED WAXES AND COMPOUNDS

STA-WARM FEATURES:

Uniform heating, sides and bottom.

Low heat concentration.

No cold spots; no carbonization; no fire hazards.

Accurate thermostatic control, fixed or variable type, to suit your needs.

Heated outlets — no freezing.

STA-WARM Electric Compound Heaters were developed to lick the problems of manufacturers with processes requiring impregnating of materials in accurately heated waxes and similar compounds . . . Units in sizes from 2 quarts to 100 gal. capacities have all the features listed at the left . . . If standard STA-WARM units don't quite meet your requirements, our engineers are prepared to fill your needs promptly . . . accurate heat control, faster production, better impregnation, and lower costs are but a few of the features.

Complete information will be sent on application . . . write for full description and specifications today.

STA-WARM ELECTRIC CO.
130 N. CHESTNUT ST.
RAVENNA, OHIO

Sta-Warm

Mention Item **NED-3734** when writing

"Hot Off" the Press

***New* 1939 EMERSON-ELECTRIC FAN CATALOG**

Send for Your* PERSONAL COPY *Today!

It contains complete descriptions of all 1939 models — installation facts and performance data—a wealth of information about the most complete line of quality fans in America. You need this valuable fan-buying guide on your desk. Write today for the new 1939 Emerson-Electric Fan Catalog. Also request the booklet "How to Select Emerson-Electric Exhaust Fan Equipment" and the Emerson-Electric Air Circulator Bulletin.

EMERSON ELECTRIC MANUFACTURING COMPANY
2059 Washington Ave., St. Louis, Mo. • Branches: New York, Chicago

LEADERS IN THE FAN AND MOTOR INDUSTRY SINCE 1890

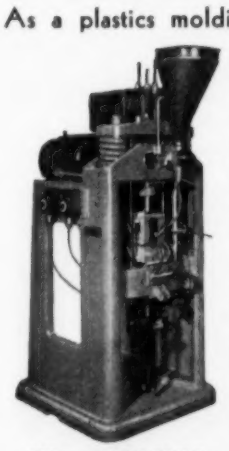
Mention Item **NED-3739** when writing

ONCE A DIE CASTING . . . NOW A MOLDING

$2000 was saved in four months

As a die casting this toy whistle impeller was comparatively heavy. Fins had to be machined off. It was difficult to keep the piece balanced. The completed job was neither cheap to make nor entirely satisfactory.

As a plastics molding it is light in weight, perfectly balanced, easily mounted, requires no machining and, most important, *costs 1½c less to make.*



The STOKES Completely Automatic Molding Machine

On this job the Stokes Completely Automatic Molding Machine *saved its cost in four months.*

Why not mold some of your parts . . . benefit by the many advantages that plastics offer . . . reduce costs at the same time? The Stokes Automatic Molding Machine makes it possible . . . eliminates the high-cost multiple-cavity mold that has heretofore made moldings too costly for many purposes . . . makes plastics molding a simple, low-cost operation, undertaken with assured success anywhere. Molding powder is placed in the hopper . . . accurately molded parts are discharged. The machine is a complete, self-contained molding plant, ready to connect to electric or steam and air lines. It handles a wide range of work, produces identical parts of the highest quality, uses a low-cost single-cavity mold, produces parts even in limited quantities at astonishingly low costs.

Let us show you

F. J. STOKES MACHINE COMPANY
5964 Tabor Road Olney P. O. Philadelphia, Pa.

Representatives in New York, Chicago, Cincinnati, St. Louis
Pacific Coast Representative: L. H. Butcher Company, Inc.

F.J.Stokes FJS Est. 1895

Mention Item **NED-3741** when writing

RYERSON CERTIFIED STEELS

Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

Mention Item **NED-3742** when writing

KEEPING YOUR production methods two jumps ahead of those in competitive plants is not only a great satisfaction—it is highly profitable. Advance thinking on the subject of *conveyors* has enabled many business men to take a lead and hold it. What are *your* conveyor possibilities? Catalog 35 can help you uncover them. Write for your copy today.

Logan CONVEYORS

LOGAN CO., INC., 215 Cabel St., Louisville, Ky.

Mention Item **NED-3743** when writing

Industrial TRUCKS for Every Purpose

• Wherever you look through modern industry—manufacturing, commercial or institutional—you will find Colson Trucks in daily use.

You will be impressed, too, from the smallest caster to the largest truck with the carefulness of design and substantial manner in which Colson builds.

THE COLSON CORPORATION
3704 CEDAR STREET • ELYRIA, OHIO

Bring your truck needs to Colson

Mention Item **NED-3744** when writing

VERSATILE CLEANING TOOL

Cleaning tasks and cleaning requirements vary widely within each plant. Power required for thorough cleaning on one job is often too great for the next. The blower, pictured here, is said to be capable of doing all types of cleaning because it has both a high and a low speed. The portable tool may be used also as a suction cleaner or as a sprayer.

When being used as a high speed blower its velocity is 26,000 lineal feet per minute and its capacity 176½ cubic feet per minute. As a low speed tool its velocity is cut down to 20,500 lineal feet per minute and its capacity is 125 cubic feet per minute. For cleaning by suction the low speed is amply strong but not strong enough to suck dangerous fragments of iron or steel into the fan chamber and through the housing. When used as a sprayer, paints, lacquers, deodorants, insecticides and the like can be sprayed effective at either speed. Made by **Clements Mfg. Co.,** 6650 South Narragansett avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3745** when writing

PORTABLE BATCH MIXER

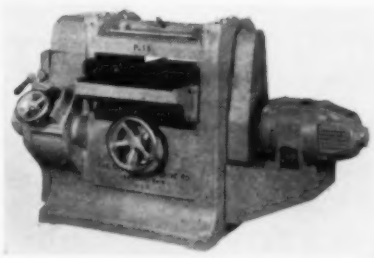
Because a vast number of fluid mixing operations are carried out in 50 or 100 gallon containers, this batch mixer of suitable characteristics for the average job has been developed.

Designated as model 11 this mixer is rated at ¼ horsepower and operates its propellers at 1725 revolutions per minute. The ball-bearing equipped motor thus assures satisfactory 24 hour daily service if required. Mounting is by means of an adjustable clamp to the container edge.

The mixer carries a single bronze propeller, however, duel propellers and stainless steel propellers are available. Made by **Eastern Engineering Co.,** 42 Fox street, New Haven, Conn. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3746** when writing

18-INCH PLANER



This 18 - inch planer has been introduced as the model P-18 and completes a line of 14, 18 and 24-inch planers. It has a variable speed drive as well as a motor driven knife grinding and jointing attachment. The ball bearings are lubricated by grease gun, and the machine is completely enclosed by cast aluminum guards. Made by **Crescent Machine Co.,** Leetonia, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3747** when writing

FUSES FOR FIRE HAZARDS

In many plants, because of existing fire hazards, it is of utmost importance to eliminate possibility of electrical flashes, sparks, or fuse explosions. To eliminate this danger, the fusible element in these fuses is placed in a separate compartment and is surrounded by a scientifically prepared powder that instantly chokes off the arc and reduces the formation of dangerous gases to a minimum. All blowing action is confined to the inner renewal cartridge. Besides the fusible link is always protected against damage.

The self - contained element also provides tamper proof protection. No more than one element can be inserted into a fuse casing. Doubling up of links destroy the protective value of a fuse and create a dangerous fire hazard.

The powder packing supports the fusible link eliminating sagging, stretching, and thinning out which are the direct causes for premature fuse blowings. Made by **Trico Fuse Mfg. Co.,** 2950 North Fifth street, Milwaukee. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3748** when writing

HORSE HEADS

Here is a horse head ready to be assembled on any 2 by 4 selected. It is firm and rigid and its assembly requires no drilling, nailing, or planing. All one has to do is cut 2 by 4s to desired lengths, slip them into steel pockets and fasten hinge bolt which tightens legs and prevents loosening. The mouth is then opened for inserting top ridge.

By tightening the cross bolt, the steel alligator-like teeth dig into the top ridge. When the load gets heavier, the teeth bite deeper. Made by **Anchor Mfg. Co.,** 2131 South Christiana avenue, Chicago. For convenience, use blank between pages 4 and 5.

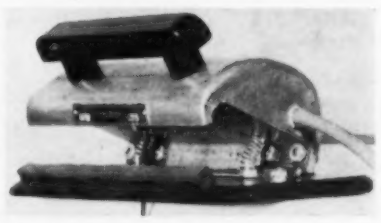
Mention Item **NED-3749** when writing

CONVEYOR CHAIN LUBRICANT

Conveyor chains operating in high temperature zones, such as in baking and enameling ovens, can now be more effectively lubricated as the result of the development of a new form of colloidal graphite. The graphite is so finely divided that it can be suspended in suitable volatile liquids. The liquid, kerosine in this case, merely evaporates, leaving a very thin deposit of colloidal graphite on the surface. This film of graphite, although extremely thin, provides lasting lubrication for the difficult to reach friction surfaces under high operating temperatures. Made by **Acheson Colloids Corp.,** Port Huron, Mich. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3750** when writing

BAG END SEALER

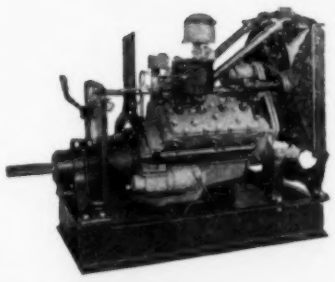


Illustrated here is what can be termed as the answer to a bag sealer's dream. The device has been designed specifically for sealing packages wrapped in Pliofilm or other materials which seal upon the application of heat.

So simple is the operation of the sealer that an experienced operator can work it for hours without undue fatigue. The unit is made of cast aluminum and has a thermostatic control incorporated which maintains an even heat automatically. It can be operated either by hand or by means of a foot pedal. Use of the latter permits operator to use both hands, and work while seated. Purchase price is so low that it would be to the purchaser's advantage to buy both the handle and foot lever, assuring a complete unit for all types of operations. Made by **Sta-Warm Electric Co.,** North Chestnut street, Ravenna, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3751** when writing

LOW COST POWER with this KRW FORD V8 UNIT



Here's dependable, low-cost power up to 60 H.P.—complete, compact, portable. Ideal for welders, compressors, hoists, pumps, line shafts, well drilling outfits, contractors' equipment, etc., etc.

Assembled with brand new heavy duty Ford V8 Truck engine. Large capacity radiator protected by heavy screen. Engine rubber mounted—outfit complete with governor, 17 plate battery, instruments, and KRW "Guardian," which automatically stops engine in case of cooling or lubrication failure.

WRITE for new bulletin just off the press—packed with useful information, engineering data, etc. You can buy thru your Ford Dealer and benefit by local service and low-cost Ford engine replacement feature.

ALSO KRW ELECTRIC PLANTS
20 KW outfit with dual voltage take-off for handling BOTH light and power requirements simultaneously.

K. R. WILSON 5 Lock St. BUFFALO, N.Y.
Builders of Shop Equipment for Ford Dealers Since 1916
West Coast: 722 Maine St., Los Angeles. Export Office: 50 West St., New York

Mention Item **NED-3752** when writing

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MECHANICAL IMPROVEMENTS • INDUSTRIAL LITERATURE
NEW PRODUCTS AND MATERIALS

Penton Building, Cleveland, Ohio

Please give below names of others in your organization who should receive NEW EQUIPMENT DIGEST.

Name Title

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their position ☐ Purchasing ☐ Plant Maintenance ☐ Product Design ☐ Engineering

Name Title

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Have you any new developments or have you recently brought out any new equipment or product or developed any new application of established equipment or product, of possible interest to readers of NEW EQUIPMENT DIGEST? If so, note below, and if possible enclose literature or a catalog.

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Name Title

Please check ☐ Production Dept. ☐ Transportation ☐ Management ☐ Finances
their position ☐ Purchasing ☐ Plant Maintenance ☐ Product Design ☐ Engineering

Have you any new developments or have you recently brought out any new equipment or product or developed any new application of established equipment or product, of possible interest to readers of NEW EQUIPMENT DIGEST? If so, note below, and if possible enclose literature or a catalog.

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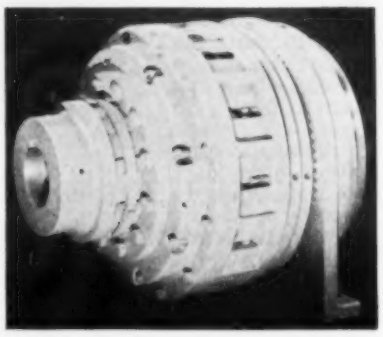
CIRCUIT BREAKER PANEL

Multibreaker panelboards have been designed to meet the need of a moderately priced circuit breaker panel for industrial plants, office buildings, and public institutions. Type NMM is shown with main circuit breaker but is also available with main lugs only. This type unit is available with any number of single or double pole breakers in branches except that any one panel is limited to 40 breaker poles.

Several types are available and all are equipped with adjustable mountings for the interiors. Made by **Square D Co.,** 6060 Rivard street, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3753** when writing

MAGNETIC CLUTCH-BRAKE



This magnetic clutch-brake combination has the unique quality of providing a positive clutch, friction clutch and friction brake. It is styled FFP and has been designed in response to a demand for a positive jaw action clutch, having the flexible, smooth starting properties of a friction clutch.

A feature of the combination is that it can be engaged at normal motor speed, and it is claimed to be the only type of magnetic device which gives smooth acceleration, positive noncreep running and split second, disk brake stopping. It lends itself to simple remote control facilities. One push button for starting and another for running, and any convenient number of push buttons for stopping will operate it. Made by **Stearns Magnetic Mfg. Co.,** 653 East Twenty-eighth street, Milwaukee. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3754** when writing

AIR LINE RESPIRATOR

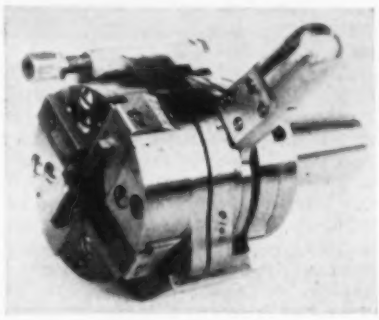
The air line respirator with twin exhalation valves provides respiratory protection for many hazardous classes of air contaminants for which approved protection has not been previously available. These include welding and cutting fumes, paint spray vapors and pigments, fumes from molten or burning metals and toxic dusts. The assembly includes a half mask type all rubber facepiece, equipped with twin exhalation valves and an air deflector tube, a corrugated supply tube, a quick release connection, bumpproof control valve and an air hose with couplings.

The double exhalation valves are a special feature of this respirator and provide the required low resistance to air flow. Another feature is the bumpproof air control valve. By its use, the setting cannot be changed accidentally, yet can be changed when desired by pressing the hand wheel down and engaging the clutch. The valve is so designed that at least two cubic feet of air per minute will flow into the mask. The wearer cannot shut his air down to the point where he will not receive safe protection. Made by **Mine Safety Appliances Co.,** Braddock, Thomas and Meade streets, Pittsburgh. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3756** when writing

INSERT CHASER DIE HEAD

Illustrated is a new style H & G insert chaser die head, recently developed for use on hand screw machines and turret lathes. The head comes in three sizes, the size known as 103 has a range from ¼ to 1¼-inch in long threads and up to 1½-inch diameter in short threads.

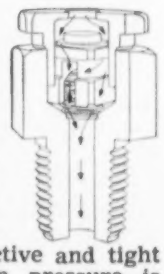


The head is driven by strong torque arms located a maximum distance from the center. It may be tripped either by pull-off or by front end contact, the latter being desirable for close to shoulder threading or for cutting extremely short threads.

Fine adjustment for length of thread is self-contained on the head itself. Shank of the head is detachable, and there is a clearance hole through the shank making it possible to cut any length of thread in diameters up to the die head's normal capacity. Head also has ideal longitudinal float that compensates for variations in starting pressure or turret travel. Made by **Eastern Machine Screw Corp.,** New Haven, Conn. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3757** when writing

BUTTON HEAD FITTING



In this free-flow giant Alemite button head fitting, the valve core is one which has a flat face and seat, and which, when open, offers practically no impediment to the free flow of lubricant. By expanding diameter of the valve retaining spring, lubricant flows unobstructed through the center of the spring and not through its compressed coils. The improved valve opens easily under slight pressure, and provides an effective and tight seal against loss of lubricant when pressure is removed.

Bodies of the new fittings are hardened to withstand rough treatment. Their smooth tops which eliminate the cutting or wearing of the coupling sealing washer, are a new feature. Made by **Stewart-Warner Corp.,** 1828 Diversey Parkway, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3758** when writing

PUMPLESS BLOW TORCHES

A definite contribution to easier handling of safety blow torches has been effected through the pumpless principle of operation recently incorporated in the units. It is now not necessary to pump air into the fuel tank of these torches.

Torch No. 200 is designed for large tool performance and does the work of two regular quart torches, delivering a large, clean flame at 2400 degrees Fahr. The tank is of heavy, seamless brass, stay-bolted for extra strength, and a gasoline capacity of 1 pint.

Recommended for bench or desk use indoors, the company offers torch No. 300, which when tilted at any angle, burns with 100 per cent efficiency. It delivers a 6-inch blast or a fine pointed blue flame, and its fuel capacity is 6 ounces. The tank is of chromium, and the crackle finished steel base is fitted with rubber friction plugs.

Small enough to fit into a tool box drawer or a mechanic's coat pocket, torch No. 100 does the work of a regular quart torch, and has a capacity of 2 ounces. It has an adjustable handle and during its combustion does not give off any soot or carbon monoxide.

The first and last torch mentioned are both provided with a wind guard. All torches will burn any kind of gasoline. Made by **Baumgarth Mfg. Co.,** 838 Hubbard street, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3759** when writing

You May Not Have To . . .

PEEL ONIONS, *but—*

If you did, you would want to protect your eyes with COVER'S GAS-TIGHT, FOG-PROOF, "Nod & Shake" GOGGLES.

All persons working with ammonia, chlorine, chromic acid mist, bromine, sulphuric acid, lime dust, smoke, fumes, organic vapors, poison gases, etc., wear these famous fog-proof goggles. Ordinary gas-tight goggles cloud over in no time, but with COVER'S GOGGLES wearer can work for hours without stopping to wipe fogged lenses! All wearer need do when mist starts to form on lenses is "nod and shake" the head. This action agitates water in patented groove and keeps vapor off lenses indefinitely. Everyone can use a pair of these Time Saving—Money Saving—EYE SAVING goggles! Write today!

Sample sent postpaid $1.50

H.S.COVER 1940 CHIPPEWA ST. SOUTH BEND, IND.

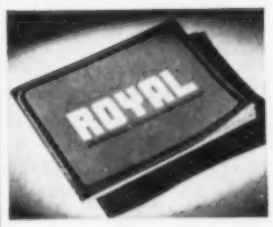
Mention Item **NED-3755** when writing

ROYAL CHAIRS QUICKLY PAY FOR THEMSELVES

● They reduce fatigue and thus help increase production — and profits. These chairs can be adjusted to assure correct posture for every employee—whether tall or short, fat or thin. There is a wide line of Royal Industrial chairs—adjustable and non-adjustable—for every type of plant and to meet every problem.

● FREE TRIAL will be given to any progressive company.

WRITE FOR CATALOG and Reference Book. See how other plants have solved seating problems.



ROYAL METAL MFG. COMPANY
1117 S. Michigan Blvd.
CHICAGO
Branches in Principal Cities

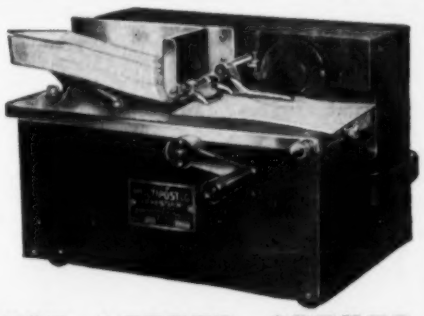
Mention Item **NED-3760** when writing

CATALOGUE 390

● Here is the most complete catalogue ever published on Bearing Bronze. 64 pages packed with interesting and valuable bearing information. Complete size listing on over 800 sizes of stock bearings. Over 225 Electric Motor Bearings—illustrated. Complete listing of over 350 sizes of cored and solid bars. Write for your free copy—today.

JOHNSON BRONZE
580 S. MILL STREET • NEW CASTLE PENNA.

Mention Item **NED-3761** when writing



Use a

MULTIPOST LETTER OPENER

AND SAVE TIME, NOW WASTED, WAITING FOR MAIL

Opens Your Mail 10 to 25 Times Faster Than Old Fashioned Paper Knife

. . . Enables incoming mail to be distributed at earliest possible moment. . . . Saves time of all whose work is affected by incoming mail. . . . Reduces time lost at the beginning of the day—the most valuable time. . . . Facilitates the entire office routine by effecting an earlier start on the day's business.

3 MODELS—2 Hand Operated, 1 Motor

We Also Manufacture:

3 MODELS ENVELOPE SEALERS—2 Hand Operated, 1 Motor

4 MODELS MULTIPOST STAMP AFFIXERS

COMBIMAILER—A COMBINED SEALING & STAMPING MACHINE

Try any Unit Free—No Obligation—Write for Booklet

MULTIPOST CO. • 53 CENTER PARK ROCHESTER, N. Y.

Mention Item **NED-3762** when writing

MAKING PRODUCTION DOLLARS S-T-R-E-T-C-H

The simplification or elimination of fabricating processes is one way of making production dollars go farther. Molybdenum steels are often a help in that way.

For instance, a manufacturer of high pressure motor driven pumps uses cast Nickel-Molybdenum steel for cross-head guides because it has the required toughness and hardness. In addition, the ready machinability and close grained structure of the steel make it possible to produce a good bearing surface in the guide runways by a light cut with a shearing tool. One finishing operation — grinding — is entirely eliminated.

Rechecking your own material specifications may reveal places where Molybdenum steels will produce better results, or lower costs, or both. Our technical book, "Molybdenum in Steel," will be sent free to any interested production executive or engineer who requests it.

PRODUCERS OF FERRO-MOLYBDENUM, CALCIUM MOLYBDATE AND MOLYBDENUM TRIOXIDE

MOLY

Climax Mo-lyb-den-um Company
500 Fifth Avenue · New York City

Mention Item NED-3763 when writing

PROTECT with an EC&M Separator Magnet

Provide complete protection against tramp iron troubles by installing an EC&M Separator Magnet over the head pulley, or above your conveyor, or under chute.

Because of its powerful flux concentration this separator magnet pulls out all small pieces of iron buried in the stream of material, also larger pieces such as bolts, hammer heads, etc. It provides the strongest flux directly over the center of the conveyor belt where the material is usually the deepest.

Write for the illustrated Bulletin 910 describing EC&M Separator Magnets.

The ELECTRIC CONTROLLER and MFG. CO., CLEVELAND, OHIO

AUTOMATIC CONTROL for CRANES · MILL DRIVES and MACHINERY
BRAKES · LIMIT STOPS and LIFTING MAGNETS.

Mention Item NED-3764 when writing

Do You Use Metal Rings or Cylinders?

Make Them Faster for Less with "Buffalo" WRAPPING ROLLS

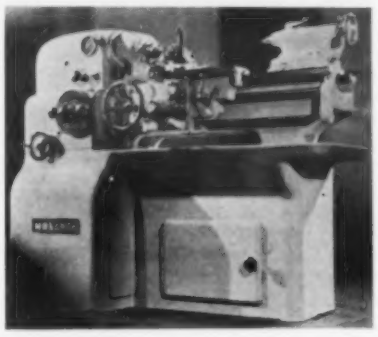
Every day our engineers and our customers are finding new and money-saving uses for Buffalo Wrapping Rolls. Many parts that were formerly cast, are now rolled at considerable saving in both labor and materials.

Sizes available to handle thicknesses from 1/16" to 1¾". Write for our new Bulletin 3150.

BUFFALO FORGE COMPANY
215 Mortimer St. Buffalo, N. Y.
Branch Engineering Offices in Principal Cities
In Canada: Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

Mention Item NED-3765 when writing

PRECISION LATHE



Reflecting the progressiveness of the machine tool industry is this streamlined, 10-inch, sensitive precision lathe. It contains several exclusive design points such as a 100 to 1 infinitely variable spindle speed range feeds being automatically supplied through an endless web belt, and threads being chased through the regular end gearing to the quick change gear box. Drives from the spindle to the gear box are automatically selected.

The lathe is provided with a 1½ or 2-horsepower motor, which provides the spindle operating speed from 25 to 2500 revolutions per minute. Higher speeds may be furnished. The headstock is precision bored to receive the hardened spindle which is mounted in three automatically lubricated precision ball bearings. The feeding rate is from 0.001-inch to 0.0075-inch, feeds ordinarily adequate for high speed turning, boring, or facing. An index plate on the front of the gear box permits quick selection of threads or feeds. Fifty changes of threads and feeds are possible. Made by **Monarch Machine Tool Co.,** Sidney, O. For convenience, use blank between pages 4 and 5.

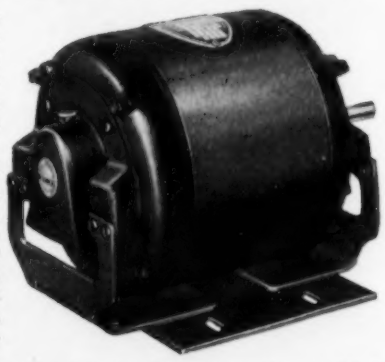
Mention Item **NED-3766** when writing

MERCURY ARC RECTIFIER

A small capacity, permanently evacuated rectifier unit using a heat resistant glass bulb as a vacuum chamber is especially adaptable to small traction systems and to industrial loads of moderate direct current power requirements. The complete unit consists of glass bulb, resiliently mounted, in an accessible truck type framework located waist high in the upper portion of the cubicle structure. The lower portion contains the cooling fan and small panel supporting ignition and excitation devices. The necessary transformers and circuit breakers that go with the unit may be placed in any convenient location adjacent to the cubicle. This type of rectifier requires no special foundations. Made by **Allis-Chalmers Mfg. Co.,** 1126 South Seventieth street, Milwaukee. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3767** when writing

RESILIENT-MOUNTED MOTOR



Complete elimination of vibration and noise on the motor base due to the effective use of extra amount of live rubber in the shear has been effected in a new resilient mounted motor. The motor is furnished either in the split phase, condenser, or repulsion-induction types.

A feature of the motor is the mounting which give maximum absorption of vibration in the direction in which the vibration occurs, and at the same time, allows for proper movement in its mounting for proper alignment for drive purposes.

Torsional strains imposed are also well taken care of, and unnecessary swing of motor when operating is prevented. Made by **Brown-Brockmeyer** Co., Dayton, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3768** when writing

FLOOR DRY CLEANER

This new machine offers an economical means of dry cleaning factory floors subject to heavy accumulations of grease, dirt, steel chips and wood shavings. It does a fast thorough job without use of soap and water. Its dry cleaning action precludes any possibility of warping or rotting of plank or wood block floors, and produces a clean, smooth, nonskid surface on asphalt, brick, concrete and composition floors as well.

Industrial special number 77, as this model is called, has two 10½-inch steel wire brushes which revolve in opposite directions at 285 revolutions per minute, driven by a powerful 1½-horsepower ball bearing motor. Complete equipment furnished with the cleaner includes two complete sets of steel wire brushes, 30 tuft and 59 tuft, for all cleaning conditions and one hundred feet of heavily insulated flexible rubber covered wire. Made by **Lincoln-Schlueter Floor Machinery Co. Inc.,** 215 West Grand avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3769** when writing

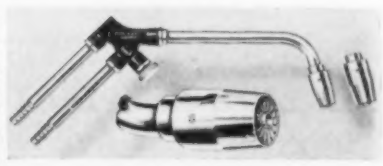
PUSH-PULL PIPE JACK

Here is a powerful, specially designed machine for placing pipe beneath sidewalks, streets, buildings and lawns where it is inconvenient or undesirable to dig a trench. Long continuous lengths of pipe up to 1¼ inches may be pushed without disturbing the jack except to loosen vise and take a new grip again after each stroke of the ram. Larger sizes of pipe may be pulled by attaching pipe reducer after a 1¼-inch pipe has been pushed through a section.

A small enlargement of the end of the trench is sufficient for the use of the push-pull jack. It anchors itself automatically and is reversible in its action permitting it to be used to push or pull pipe with the same set-up. A positive ratchet prevents any spring-back. It does not push on the end of the pipe so there is no danger of damage to the threads. Made by **Alamo Iron Works,** 130 Santa Clara street, San Antonio, Texas. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3770** when writing

GAS AND AIR TORCH



Illustrated is a blowpipe with radial grid tip, a high intensity gas and air torch for general purpose soldering and brazing. The torch is regularly supplied with three carburetors, for utilizing coal gas and manufactured gas, for natural gas or other petroleum gases, and for mixtures of these gases.

Each carburetor is so constructed that any increase of the air flow at the bench connection automatically increases gas flow from the main line. Thereby proportions of gas and air for perfect combustion and maximum temperature can be maintained when the flame size is changed by adjustment of the air valve at the bench connection, and minor adjustments of the gas finger valve on the blowpipe.

Two readily interchangeable tips are available. The smaller, supplied as standard equipment, is suitable for all ordinary soldering and brazing operations. The larger tip is for use where large quantities of alloys must be rapidly melted. Made by **S. S. White Dental Mfg. Co.,** Industrial division, 10 East Fortieth street, New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3771** when writing

NEW! DIAL-TYPE INDICATING FLOW METER

★ *easy to read*
★ *safe*
★ *inexpensive*

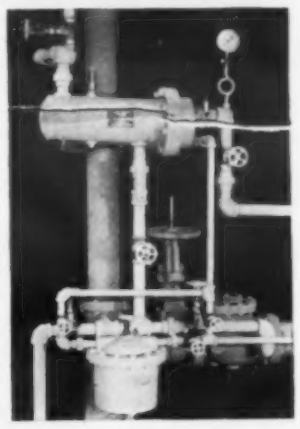
Here is an inexpensive, accurate means of obtaining a positive check on operating conditions and of providing for closer regulation. This new Foxboro 6-inch Dial Indicating Meter is easily read at a distance of 30 feet and more. All metal construction assures safety up to 400 lb. per square inch. The cost of this compact, easy-to-install meter is well within the price of any accurate manometer. . . . Patented check floats prevent loss of mercury from overrange, reverse flow or faulty operation of valves. This meter may be hung directly on the piping, or installed flush on a gauge board as desired. . . . You will be interested in obtaining complete information on this modern, inexpensive meter. Write for the new Bulletin 761.

THE FOXBORO COMPANY
134 Neponset Ave., Foxboro, Mass., U. S. A.
Branch Offices in 25 Principal Cities

FOXBORO
REG. U. S. PAT. OFF.
FLOW METERS

Mention Item NED-3772 when writing

SPRINKLER TANK HEATER



Designed especially for service on sprinkler tanks as a safeguard against freeze-ups this steam tank heater offers the advantage of maximum heat transference within a minimum space.

Heating is accomplished much quicker because of two features. The heater utilizes tubing, the wall thickness of which are considerably thinner than those of the standard brass pipe coil. In addition a larger number of these copper tubes have been incorporated. Tubing also is swedged into the steam head in a manner which eliminates joints in the body of the heater.

The main cylinder or shell is of one-piece, semi-steel construction, tested at 3000 pounds after machining. Four different sizes are available. Made by **Rockwood Sprinkler Co.,** 38 Harlow street, Worcester, Mass. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3773** when writing

VIBRATION ABSORBER

The illustrated vibration absorber, although developed expressly to reduce maintenance on refrigeration and air-conditioning equipment lines is adapted to general industrial use. It is claimed to afford

maximum results in eliminating vibration, deadening noise, preventing pipe breakage and leak-proofing line.

Constructed of one piece, these packless flexible absorbers are fabricated from seamless bronze tubing drawn into a helical tube having extra wall thickness and strength without sacrificing flexibility.

The bronze braid casing is double clamped by means of a metal ring encircling tube gripping the braid end and soldered ferrule which envelops ring and braid end completely, and effecting a positive seal. The absorber is available in fourteen sizes ranging from ¼ to 6 inches inside diameter. Made by **Packless Metal Products Corp.,** Long Island City, N. Y. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3774** when writing

COLLOIDAL LUBRICANT

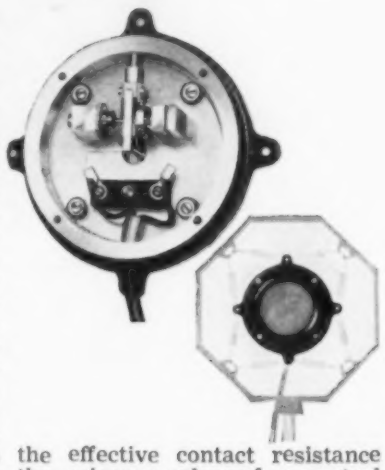
A simple, low-cost solution to the old problem of providing long-life lubrication for small mechanical devices such as locks has recently been developed. Besides locks, the colloidal graphite suspension, as the lubricant is called, is applicable to such mechanical devices such as alarm systems, telephone exchange equipment, news and financial tickers, fans, small motors and clocks.

The operation consists in simply dipping such parts as pins and shells of locks in a dilute suspension of finely divided "dag" colloidal graphite in water. As water evaporates it leaves behind a thin dry graphite film that provides a practical method of lubrication over a long period of time.

In some cases solution may be made in oil instead of water, in which case, graphite in its finely divided form has the advantage of retaining the oil on friction surfaces. Made by **Acheson Colloids Corp.,** Port Huron, Mich. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3776** when writing

ACOUSTIC SWITCH

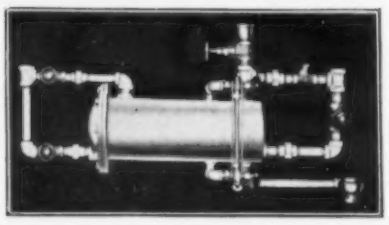


A new electro-acoustic instrument permits the voice or sounds of even lower intensity to control operations ultimately involving relatively large amounts of power. The device comprises a single pole, single throw switch having its contacts so mounted with relation to a diaphragm that a sound wave, impinging upon the diaphragm, varies the effective contact resistance enough to actuate the primary relay of a control circuit.

No microphone or amplifier is needed to enable sound to initiate electrical and mechanical actions. Being fully adjustable, this new instrument is especially useful in alarm systems, in which different sensitivities are required for various locations. It may also be employed in door openers, counters, geophysical and psychological apparatus. Made by **Sigma Instruments Inc.,** Belmont, Mass. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3777** when writing

CONGESTION ELIMINATOR



To prevent rust, corrosion, congestion in steam mains, both high and low pressure for heating and processing work of all kinds there has been developed a special product which when introduced into the steam main by means of a Mogul pressure jet immediately vaporizes and atomizes.

The product, known as Mogul rust eradicator, is injected directly into the steam main by means of the equipment provided. Equipment consists of housing containing a copper coil, an opening in the valves through which the special treating material is introduced, a gage to show the amount held in the housing, the necessary connections for steam inlet, steam outlet and trap return. Unit is easily connected. Made by **North American Fibre Products Co.,** 1612 Keith building, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3778** when writing

CARBURETOR DEVICE

Carburetion is greatly improved by this new device as it vaporizes carburetor wall precipitation eliminating dripping of fuel in liquid state into the intake manifold saving fuel and oil. The device can be a great economizer for industrial plants using trucks and commercial vehicles.

No matter what grade gasoline is used pinging is vastly reduced. With this unit, a gain in acceleration and throttle response is immediately experienced. A reduction in the flow of gasoline through the carburetor is need for compensation because of the complete vaporization. A corresponding decrease of crankcase dilute is effected.

The equipment consists of a one piece high pressure die casting which fits below the carburetor. There are no moving or wearing parts, or adjustments, and no obstructions to hinder the passage of the mixture. Made by **HH Dry-Charger Mfg. Co.,** 3547 East 154th street, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3779** when writing

PORTABLE HUMIDIFIER

To help provide humidity of the proper degree for health and comfort in offices and shops during the winter months, a portable humidifier has been produced.

It is small and light weight and can be picked up and carried about. It is entirely noiseless and completely safe, as the automatic switch shuts off the current if the water is completely used, and there is no danger of scalding because only a few spoonfuls of water are heated at one time. The reserve supply remains at body temperature. Made by **Mayflower-Lewis Corp.,** Duluth & Northwest Railroad, St. Paul. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3780** when writing

More Machines in the same shop area

Converting over-head drive machines to Cullman direct drive will permit you to rearrange your equipment so that more machines may be operated in a given shop area.

Cullman machine drive utilizes your existing cone pulleys and combines them with a speed reducer and motor into a single compact unit mounted on the machine. Thus the Cullman Motor Drive Unit retains the smoothness of belt drives, with individual operation.

Cullman Drives may be quickly attached to lathes, shapers, milling machines and similar machines. Only four bolt holes are necessary.

If you are rearranging your present equipment or moving into a new plant, it will prove an economy to investigate the Cullman Machine Drive. Address Cullman Wheel Co., 1333 Altgeld St., Chicago, Ill.

CULLMAN MACHINE DRIVES

Mention Item **NED-3775** when writing

Designed for Built-In Purposes

Exclusive Features!

A high grade **Electric Heat Control** at low cost. Overshoot 200° without damage. Differential 1/10° F. and rugged. No thermal lag as active element is the brass shell.

CARTRIDGE THERMOSTATS

offer a distinct advance in the art of precision heat control at low cost. Because they are unusual, we suggest that you send for details or write on company letterhead for test sample. Invoice will be rendered subject to full credit in 30 days.

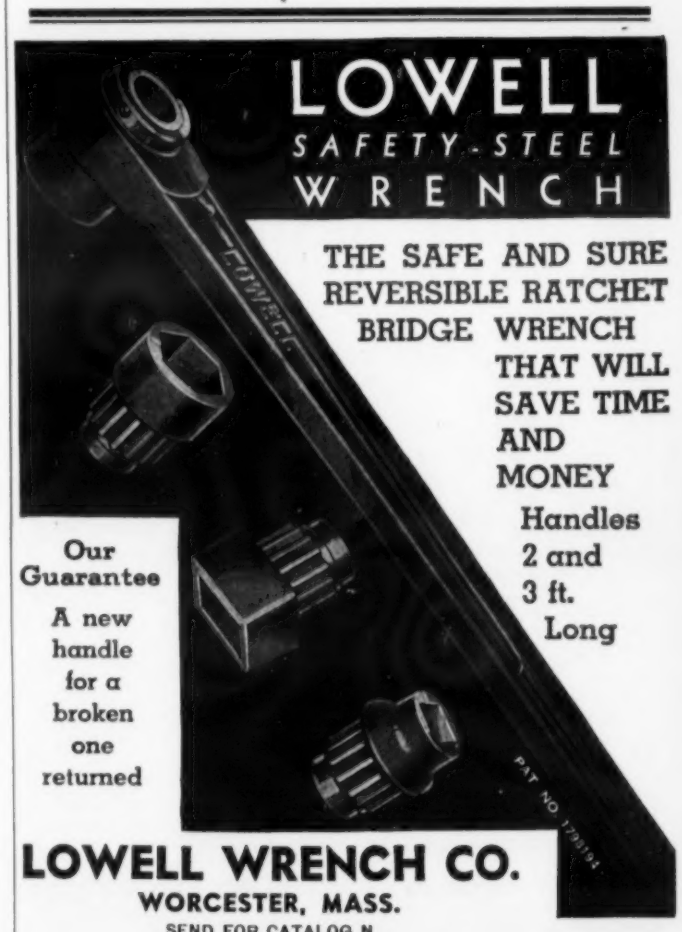
TYPES.—CARTRIDGE may be mounted on bracket or inserted in ⅝" hole. Other types of mounting heads are standard for easy application. Range:—50 to 400 degrees F. Rating: 10 amp. 110 V., 5 amp. 220 V.

REGISTERED Fenwal U. S. PAT. OFF.

FENWAL INCORPORATED
5 MAIN ST. ASHLAND, MASSACHUSETTS

Mention Item **NED-3781** when writing

LOWELL SAFETY-STEEL WRENCH



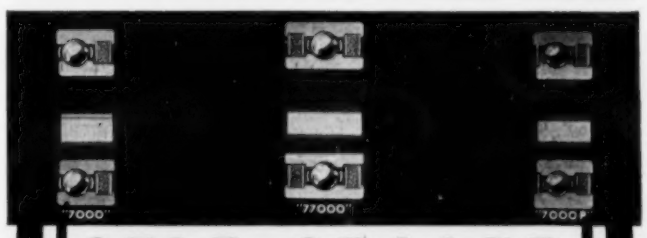
THE SAFE AND SURE REVERSIBLE RATCHET BRIDGE WRENCH THAT WILL SAVE TIME AND MONEY

Handles 2 and 3 ft. Long

Our Guarantee
A new handle for a broken one returned

LOWELL WRENCH CO.
WORCESTER, MASS.
SEND FOR CATALOG N

Mention Item **NED-3782** when writing



SELF-SEALED

These three "GreaSeal" Ball Bearings have the following outstanding advantages of design:—Thick, closely-fitting felts - - - labyrinth FELT SEAL REMOVABLE for inspection or added grease supply - - - extra wide inner and outer rings - - - felt seal protected against injury within confines of both rings - - - exceptionally quiet running - - - grease capacity for long periods of service. Reduce machining and assembly costs and simplify your construction with these felt-protected Precision Bearings. Write for catalog and engineering recommendations.

NORMA-HOFFMANN BEARINGS CORPN.
STAMFORD . . . . CONN. U.S.A.

NORMA-HOFFMANN
PRECISION BEARINGS
BALL . . . ROLLER . . . THRUST

Mention Item **NED-3783** when writing

for Flexibility and Economy

. . . use Rotary Geared MOTORPUMPS

— flexible in installation
— save expensive power take-off

3 sizes—Nos. 101-102-103
Brown & Sharpe Mfg. Co.,
Providence, R. I., U. S. A.

BROWN & SHARPE PUMPS

B·S

Mention Item **NED-3784** when writing

Now

KOH-I-NOOR

Drawing Pencils

ARE

10¢ each

$1.00 the dozen

•

Our new catalog ND-4 is now ready for distribution

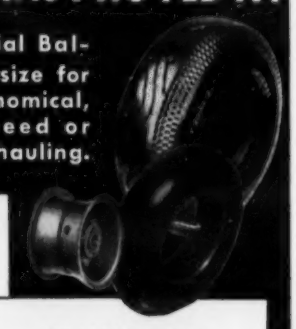
•

KOH-I-NOOR PENCIL COMPANY, Inc.
373 Fourth Avenue New York, N. Y.

Mention Item **NED-3785** when writing

ANOTHER YEAR HAS PROVED IT!

The *Quality* industrial Balloon—with the proper size for every job—assuring economical, dependable, high-speed or low-speed, heavy load hauling.



INDUSTRIAL BALLOON TIRES
(For Medium Duty Portable Equipment, Hand Trucks, Power Mowers, Motor Bikes, Etc.)

Overall Diameter Size	Ply	Tread
8"	2	Plain
8"	4	Plain
10"	2	Silent Grip
10"	4	Silent Grip
12"	2	Silent Grip
12"	4	Silent Grip
14"	2	Silent Grip
14"	4	Silent Grip

TRAILER TIRES
(For Auto Utility and Factory Trailers, Heavy Duty Hand Trucks, Yard Carts and Brick Barrows, Etc.)

Overall Diameter Size	Ply	Tread
16"	4	Silent Grip
16"	6	Silent Grip
18"	4	Rib
18"	6	Rib
20"	4	Rib
20"	6	Rib
22"	6	Silent Grip
24"	6	Silent Grip

SPECIAL WHEELBARROW TIRES
(For Contractors, Cemeteries, Coal Dealers, Etc.)

Overall Diameter Size	Ply	Tread
16"	2	Silent Grip
16"	4	Silent Grip
4.00x8	2	Rib (Hi. Press.)
4.00x8	4	Rib (Hi. Press.)

Write for more detailed information and list of manufacturers supplying equipment on Jumbo Jrs.

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

GENERAL JUMBO JR.
INDUSTRIAL BALLOON TIRES

Mention Item **NED-3786** when writing

CARGO CARLOADER

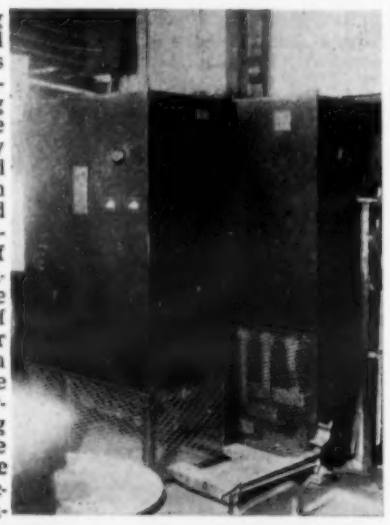
Designed for loading and unloading freight cars and for handling cargo in and out of stowage space, this carloader has a 38-inch overall width, 38-inch wheel base, 6-inch inside turning radius, 67-inch outside turning radius and will turn around in a box car without backing. It picks up the load, lifts it, tilts it back 10 degrees for safe carrying, carries it at speeds ranging from 1 to 7 miles per hour, elevates it, and tilts it forward two degrees for easy tiering. It is gaspowered and operates continuously.

The machine is made in straight models of 2000, 3000 and 3500-pound capacities, tiering to 60 inches, and three telescopic models of corresponding capacities that will tier loads in box cars with 10 and 12-foot ceilings, filling them to maximum capacity while also being able to tier to 108 inches in the warehouse. Hydraulic lift mechanism is operated by an engine driven pump. Made by **Clark Tructractor,** Battle Creek, Mich. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3787** when writing

LOW COST RECTIFICATION

An interesting type of electrical equipment has been installed recently, consisting of a copper oxide rectifier to supply the current used in the deposition of copper and nickel electrotypes. The use of the rectifier involved a change from the use of motor - generator sets and also a change from the use of direct current to alternating current for the power supply. One copper oxide rectifier of 3000 ampere, 6-volt capacity replaced two 1500 ampere motor-generator sets with direct current motors.



This combination has resulted in much economy. Installation cost was about half of the former cost and the rectifier accomplishes the rectification by leading alternating current to a suitable step-down transformer which changes it to low voltage, high amperage alternating current. This low voltage alternating current is led to the rectifier plate assemblies. It is at the contact surface of the copper and copper oxide that rectification takes place. Made by **Hanson-Van Winkle-Munning Co.,** Matawan, N. J. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3788** when writing

PROTECTOR TUBE

To protect supervisory control line wires and telephone lines from over voltages caused by lightning and direct contact with or induction from nearby power lines, a gas filled protector tube has been designed.

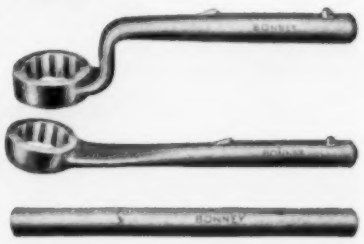
The protector is of the discharge gap type with the gaps enclosed in a glass bulb containing inert gas at a low pressure. The gas used is ionized and provides a current carrying path of 50 amperes for two seconds. Where induction is especially severe, the line wires may be continuously grounded through suitable transformers in conjunction with the protector units and all dangerous induction drained off directly.

One electrode is connected to the ground and the other two to the lines being protected. When an abnormal voltage disturbs the line, the tube breaks down and discharges the disturbance to ground, ceasing to discharge when the voltage of the disturbance is reduced. Made by **Westinghouse Electric & Mfg. Co.,** East Pittsburgh, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3789** when writing

BOX WRENCHES

These heavy duty box wrenches with interchangeable tubular handles are made in both double-offset and 15 degree angle type. They are drop forged of chrome-alloy steel, heat treated, heavily plated, with polished heads. Each type is made in seven sizes with double hexagon openings ranging from 1⅝ to 2¼-inch.

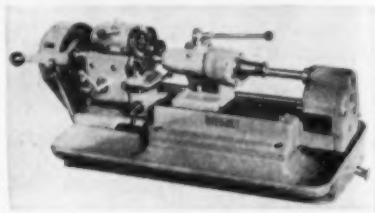


They are designed for breaking loose or tightening large diameter nuts and will be found especially useful for work on trucks, steam shovels, buses and industrial machinery. One size of interchangeable tubular handle made of seamless steel tubing is all that is necessary for use with the 14 wrenches in this box wrench line. Made by **Bonney Forge & Tool Works,** Allentown, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3790** when writing

BURNISHING MACHINE

Recently introduced is a pivot burnishing machine used to burnish shafts and pivots of small pinions to uniform diameter, true roundness and to smooth the bearing surfaces to a high degree of precision and finish.



Equipped with micrometer adjustment for control of diameter, the machine may be operated by unskilled help. Improvements in the new model include a lever for feeding in the work of rack and pinion type, a longer burnishing wheel bearing for greater support, incorporation of foot treadle at the head and an enclosed belt and pulley to protect the machine from dust and other foreign matter.

The unit may now be used with tungsten carbide wheels. Located on the broach rest is an adjustment unit to compensate for various shaft diameters, and also an adjustment to overcome any taper.

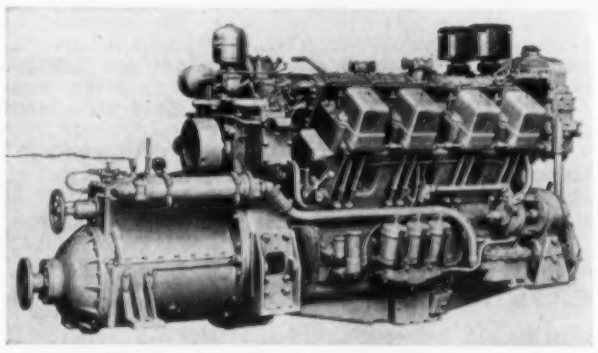
The machine will finish articles to a tolerance of 0.0004-inch. The output of the machine depends on the hardness and amount of material to be removed. Made by **George Scherr Co.,** 128 Lafayette street, New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3791** when writing

MARINE DIESEL ENGINE

Well suited for work boat fields, this 135-horsepower, V-8 marine diesel engine is built to give continuous service for innumerable days. It develops its maximum horsepower at 900 revolutions per minute.

The engine has a bore of 5¾ inches and a stroke of 8 inches. Both fuel injection pumps and valves



are factory set and require no adjustment in service. Each cylinder employs a separate valve and pump.

The engine, with reverse gear, is ready for operation after five connections have been made. It is only necessary to connect the exhaust to atmosphere, sea water suction to raw water pump, heat exchanger outlet to overboard discharge, fuel oil line to main storage tank and to align the thrust bearing shaft, and connect it with the propeller shaft. Made by **Caterpillar Tractor Co.,** Peoria, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3792** when writing

Use this TOOL for lower SHIPPING COSTS

Your company will save money every time an Acme Steelstrapper is used. Acme Steelstrappers are the only strapping tools which combine stretching, sealing and cutting operations with an automatic seal feed.

Whether your shipments are made in boxes, cartons, crates or bundles and regardless of size and shape, important savings can be made by the Acme System. Labor, material and freight charges may be reduced by 10% to 25%. Write for descriptive literature.

ACME STEEL COMPANY
General Offices: 2822 Archer Avenue, Chicago, Illinois
Sales Offices in Principal Cities

Mention Item **NED-3793** when writing

pH INSTRUMENT

A type of pH instrument that is completely automatic in its operation has been developed for use in sugar refineries, paper manufacturing, leather manufacturing, and in fact, all manufacturing operations where control must be accurately maintained. The instrument incorporates a potentiometric circuit that is automatically maintained in null balance by a 110-volt alternating current operated electronic amplifier. The device can be plugged into

any standard light circuit and fluctuations in line voltage are automatically compensated.

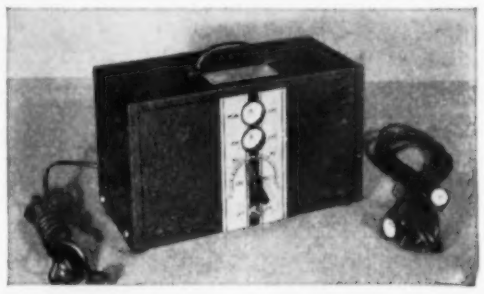
An important feature is the provision made for connecting additional indicating meters at any distance from the instrument, and for connecting a controller mechanism and any standard recording potentiometer. Thus, in addition to providing continuous pH indication on the direct reading scale, the instrument itself is a complete and separate unit for continuous pH indication, but the recorder and controller units can be instantly connected to it without special calibration. Another feature is the automatic temperature compensator which automatically adjusts the instrument to any changes in the temperature of the test solution. Made by **National Technical Laboratories,** 3326 East Colorado boulevard, Pasadena, Cal. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3794** when writing

ARC-LENGTH MONITOR

In poor welds there is usually a relation to the voltage involved. This situation if controlled through definite indications to the welder during the process of welding, removes one of the main variables in welding technique. This is what the arc-length monitor is said to do.

The welder is informed of the length of his arc by means of two tiny bulbs mounted inside his



welding helmet, one on each side of the window through which he observes the arc. Both bulbs are normally dark at the selected voltage. The one to the right glows faintly and with increased intensity, as the voltage increases from that selected; the one to the left responds similarly as the voltage decreases from that selected. Maximum brilliance is kept well below the point of hurting the operator's eyes or interfering with his work.

The instrument itself is placed where it can be observed by the production or welding supervisor. The monitor is found particularly effective where very light gage materials are used. Made by **A. O. Smith Corp.,** Twenty-seventh and Keefe, Milwaukee. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3796** when writing

MERCURY LAMP

The first concentrated source of ultra-violet radiation for fluorescent effects, a 100-watt bulb constructed of filter glass, has been developed to meet the demand for an efficient and convenient source of radiation for fluorescence excitation. The new mercury lamp is said to be more efficient than similar bulb-type lamps of filtered clear glass.

Glass of the lamp bulb selectively absorbs undesired radiations but visible and invisible, while freely transmitting near ultra-violet which is so effective for fluorescence excitation. Lamp radiation range is from 3100 to 4000 angstroms.

Of the universal type, lamp has a rated average laboratory life of 1000 hours. It can be operated only in conjunction with proper reactive ballasting transformers. Average line current consumption amounts to 2.25 amperes at 230 volts. The maximum overall length of the lamp is 5¾ inches, and its light center length is approximately 3½ inches. Made by **General Electric Vapor Lamp Co.,** Hoboken, N. J. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3797** when writing

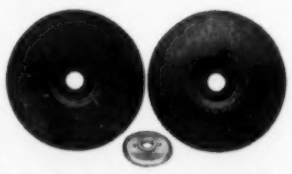
AUTOMATIC ALARM

This new automatic alarm should find many applications on sectional conveyor systems, in flour mills and any place where it is desired to check production equipment that stops or fails. It is claimed to save much labor, eliminate waste of processing material and breakdown of equipment, and other dangers caused by equipment failure.

The unit is inexpensive to install, neat in appearance and uses low voltage wiring. The alarm in operation, in case of breakage, makes contact by means of an automatic production interruption switch mechanism. The annunciator sounds the alarm to a distant operator, and the light on the annunciator tells operator just which piece of equipment has failed. The unit also can be used to automatically stop the entire conveyor system or group of machines by use of proper interlocks. Made by **General Engineering Co.,** Nickerson, Kan. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3798** when writing

RUBBER SANDING PAD



Recently announced is a moulded three-in-one flexible rubber sanding pad which can be used for feather edging, flat sanding or leveling. The pad is so formed that when the flat surface is applied it performs ideally, and when turned over and the curved surface applied it is equally as efficient.

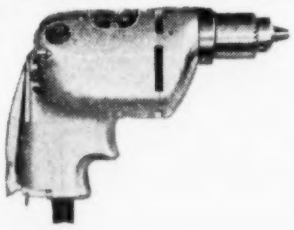
The pad holder nut fits 5, 7 and 9 inch pads. Made of solid rubber the pad is very flexible and enables the user to get into places which formerly may have had to be finished by hand because of the inaccessibility of the tool.

Despite its flexibility, the pad affords perfect balance, is light in weight and is nonbreakable. Made by **United States Electrical Tool Co.,** 2471 West Sixth street, Cincinnati. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3799** when writing

LIGHT WEIGHT DRILL

Here is a 3/16-inch drill that is an extremely light weight, compact tool with high speed, power and the stamina for continuous production service. Thus it is a good tool for aircraft and light industrial work.

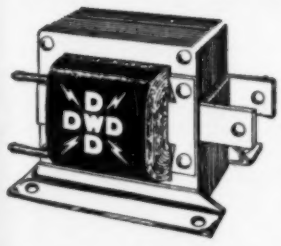


This tool weighing only 34 ounces carries a splined gear mounting, ball bearings, screened air inlets, an ample fan, new grip type switch and a universal motor. Operating speed is 3700 revolutions per minute with an optional speed of 5200 revolutions per minute. Made by **Black & Decker Mfg. Co.,** Towson, Md. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3800** when writing

STREAMLINE SERVICE

If You Specify



Davis-Made SOLENOIDS

Specification and Design Features

With sizes ranging from 1⅜" x 1⅜" to 3" x 3", the compact construction of DAVIS-MADE solenoids simplifies construction problems. Now made in both A. C. and D. C. types and for any voltage. Strokes range from ⅝" to 2", delivering up to 35 pounds at the end of the stroke.

Low in Unit Cost

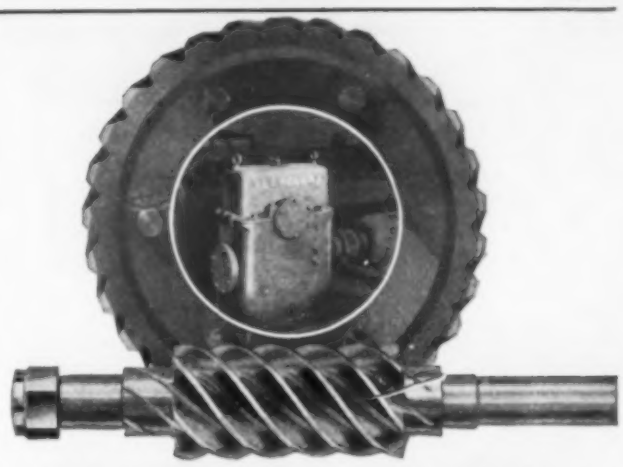
DAVIS-MADE solenoids offer many manufacturing economies. Let the wide and varied experience of DAVIS engineers help improve your products.

Precision Coils for Exacting Requirements

Send specifications and details of your solenoid or coil requirements. We will submit estimates without obligation. Samples to suit your exact needs. Write today.

DEAN W. DAVIS & CO., Inc.
549 WEST FULTON STREET
CHICAGO, ILLINOIS
COILS FOR EVERY ELECTRICAL PURPOSE

Mention Item **NED-3795** when writing



Cleveland Drives Make Machines Pay Back Faster

by protecting against costly shut-downs—by increasing productive hours. Even under the heaviest shock loads, Clevelands deliver a continuous flow of power throughout the years.

Plant Executives *expect more* from Cleveland Worm Gear Drives. And Clevelands have kept faith. They *have delivered more!*

A Cleveland Engineer will show how you can make *your* machines pay back faster, by helping you to plan the Worm Gear application best adapted to your job. The Cleveland Worm & Gear Company, 3283 East 80th Street, Cleveland, Ohio.

Affiliate: The Farval Corporation, Cleveland, Manufacturers of Centralized Systems of Lubrication

CLEVELAND WORM GEAR Speed Reducers

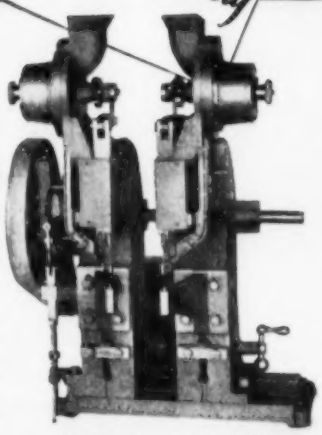
Mention Item **NED-3801** when writing

Adjustable Centers MULTIPLY ITS USES

ALSO SETS 1 or 2 RIVETS AT A TIME Automatically

This new Chicago Multiple Rivet Setter with adjustable centers is the last word in adaptability. Riveting centers can quickly be adjusted in or out and horns holding anvils raised or lowered, permitting virtually unlimited assembly applications. *Gives you advantages of volume savings on limited output.*

If you are interested in lowering both unit costs and capital investment, send blueprints or sample assemblies for production analysis of your products.



Type 55—For setting 1-8 inch body diameter tubular or split rivets

Chicago MOST COMPLETE LINE OF RIVETS AND RIVETING EQUIPMENT

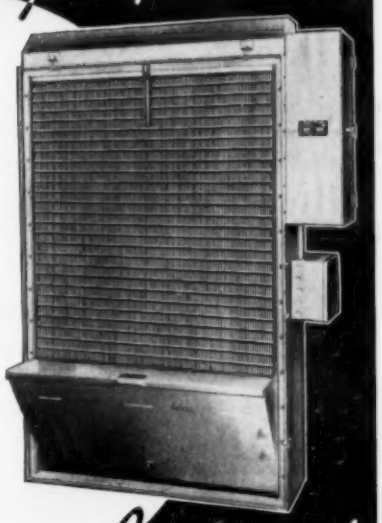
CHICAGO RIVET & MACHINE COMPANY

1847 SO. 54th AVENUE (CICERO P. O.) CHICAGO, ILLINOIS

Mention Item **NED-3802** when writing

GREATER Dust Holding CAPACITY

THE Armored Multi-Panel Filter for industrial air cleaning where large volumes of air are to be conditioned, provides for the collection of dust and lint having a wide range of particle sizes; contains filter media of graduated density which materially increases dust holding capacity by distributing the dust load more uniformly through the depth of the filter. Write for Bulletin 240B.

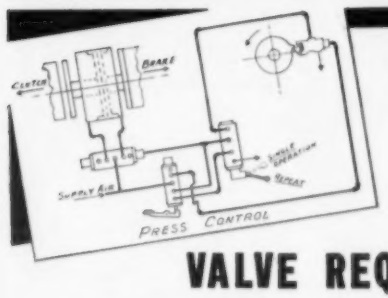


AMERICAN AIR FILTER CO., INC.
Incorporated
260 Central Ave.
Louisville Ky.

Armored Multi-Panel AUTOMATIC AIR FILTER

Mention Item **NED-3803** when writing

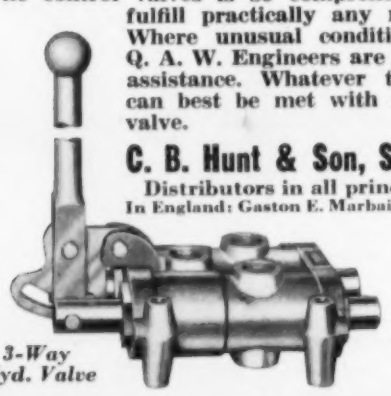
Mention Item **NED-3804** when writing



Send Us a Pencil Sketch of Your VALVE REQUIREMENTS

The Q. A. W. standard line of air and hydraulic control valves is so comprehensive as to fulfill practically any requirement. Where unusual conditions prevail, Q. A. W. Engineers are glad to lend assistance. Whatever the need, it can best be met with a Q. A. W. valve.

C. B. Hunt & Son, Salem, Ohio
Distributors in all principal cities.
In England: Gaston E. Marbaix, Ltd., London



Ask for Catalog N-392.

3-Way Hyd. Valve

QUICK-AS-WINK CONTROL VALVES
THE HIGHER THE PRESSURE THE TIGHTER THE SEAL
AIR WATER OIL

Mention Item **NED-3805** when writing

IN THE PLANT OF THE MAKALOT CORP.

Fabroil Gears Operate Quietly At Low Cost

No noise to distract the worker—no vibration to shorten the life of the machine—no appreciable wear of the companion gear at high speed—no wonder the Makalot Corp. specifies G-E Fabroil Gears for all its pinion installations. They have learned from experience, the low operating cost of these strong, quiet, non-metallic gears and rely on them for dependable, long service.

If you have a tough gear problem to lick, try G-E Fabroils. They will stay on the job day in and day out. Write to any Fabroil Gear distributor, listed in Thomas' Register or to Section D29, Plastics Department, General Electric Company, Pittsfield, Mass. Ask for bulletin GEA-818B.

GENERAL ELECTRIC
Plastics

PLASTICS DEPT., GENERAL ELECTRIC COMPANY, PITTSFIELD, MASS.

Mention Item **NED-3806** when writing

BOLT MACHINE

Made in two sizes and having a capacity covering all sizes up to 1¼ and 1½ inch, these Rapiduction junior bolt machines when stripped of diehead and vise carriage can be adapted to chamfering, drilling, reaming, boring, tapping and other jobs.

The machines are powered by constant speed motors of 2 horsepower, 1800 revolutions per minute. The drive from motor to machine is through V belts, and the vise is of the open type operated by a hand wheel. They are adjustable both vertically and horizontally.

The diehead is of the rotary type, automatic, quick-opening and fully adjustable for over or undersize threads. An emergency tripping device can be manually operated to open the head. The diehead is so constructed that the dieholder can be replaced when worn, without replacing the entire head.

The threading chasers are of the radius hobbed, segmental type, making them possible to be easily replaced. A reservoir for cutting oil is incorporated in the base made of fabricated steel.

An automatic stock stop of new design is included as standard equipment. Made by **Oster Mfg. Co.,** 2057 East Sixty-first street, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3807** when writing

NEW LINING BRICK

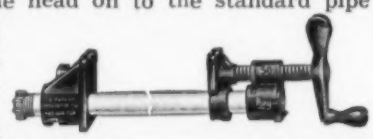
A patent has been recently issued for a new type of brick for lining acid tanks, laying sewers, and building tunnels. Bricks are laid dry and the sulphur or asphaltic jointing compound is poured in the special openings designed for this work.

The face of the brick is so designed that no joint appears on the surface of the brick masonry. Construction is expedited and less effort is required in laying brick. Made by **Sauereisen Cements Co.,** 4358 Sharpsburg station, Pittsburgh. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3808** when writing

STEEL BAR CLAMP FIXTURES

Steel bar clamp fixtures such as the one illustrated make clamps of any desired maximum capacity by simply screwing the head on to the standard pipe threads at one end of any pipe and slipping the other clamp jaw over the other end.



With the recent improvements, instead of pushing on the clutch disk handles to unlock clutch and pulling on the jaw to move it towards the rear, a pull of the fingers on the clutch handle serves both to unlock the clutch and to move the jaw.

Another improvement is that only half the formerly required pressure is sufficient to operate the clutch disks. Increased leverage makes it easier to release the clutches after heavy loading. Made by **Adjustable Clamp Co.,** 412 North Ashland avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3809** when writing

COIN CHANGER

For theaters, restaurants, banks, amusement parks, cafeterias, ticket offices or wherever the dispension of quick change is needed, this coin changer enables cashiers to keep customers moving with the least waste of time.

The unit is attractively finished and furnished with either right or left hand delivery. It has a large capacity, 8 tubes being incorporated for coins. It is provided with a finger-tip control and handles old as well as new coins without jamming. The keyboard is of the standard type, key buttons being larger and more legible. It also is equipped with a removable coin tray for carrying or storing in the vault. Made by **Universal Stampings & Mfg. Co.,** 2839 North Western avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3810** when writing

AUTOMATIC STOCK FEED

In a recently developed stock feed, a fully automatic cycle of operation is offered. A single bar or bundle of bars is completely cut up to desired lengths, with operator free to do other work.

The cycle of the unit is positive and no slipping members or friction devices are employed. Stock rest has heavy cast iron legs tied solidly together with steel rods. The entire rest is designed to support and move a weight of solid steel, or multiple bar stock equivalent to the weight of a 10 x 10-inch solid section, 12 feet long in the larger models.

Hydraulically operated, the traveling carriage with stock gripped in the vise is moved forward by oil pumped to one end of main feed cylinder. Return movement is made in rapid traverse through a pull back cylinder. Chucking is automatic, and saw frame feeds downward until blade cuts through the work. Graduated scale determines length of pieces to be cut. Made by **Racine Tool & Machine Co.,** 1776 State street, Racine, Wis. For convenience, use blank between pages 4 and 5.

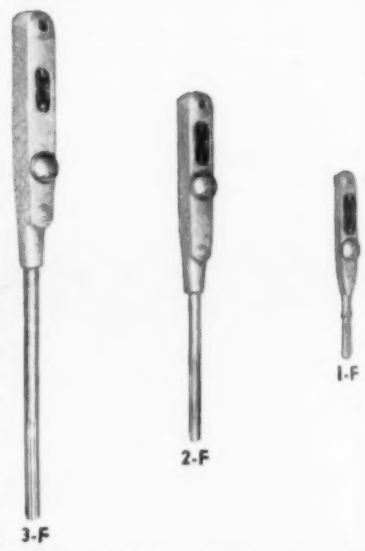
Mention Item **NED-3811** when writing

IMPROVED BUS SUPPORT

Recent refinements in the design of the type UH bus support include the following features: Interlocking teeth have been provided on the neck of the device, permitting the tubular bus to be set at an angle to the steel structure. Finer adjustments may be made by means of the slightly ovalized bolt holes in the base. In addition tube clamping members are so arranged that either a tight fit or a slide fit may be obtained, according to requirements. Made by **Burndy Engineering Co.,** 459 East 133rd street, New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3812** when writing

TENSION WRENCHES

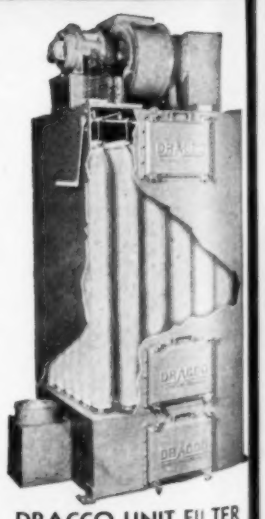


The illustrated Ammco tension indicators are an improved type of tension indicating wrenches designed to tighten bolts to a predetermined stress with each bolt carrying its proportionate share of the designated load. In bolting or tightening cylinder heads, flange connections, main bearing supports, connecting rods or any other part where control must be maintained over steam, gas, water, oil or air, the need is apparent for uniform tension which can be provided by one of these tools. The use of these tools prevent distortion, insure accuracy, maintain compression and prevent fuel loss in motors and machines. They are available in three sizes. Made by **Automotive Maintenance Machinery Co.,** North Chicago, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3813** when writing

DO YOU HAVE DUST? from INDIVIDUAL MACHINES!

Many plants require complete Dust Control, but some plants can use DRACCO Unit Filters to very good advantage. They are especially designed for collecting Dust from individual machines. In many plants a few machines create a Dust hazard that causes unhealthy working conditions and also serious damage to the equipment and product. DRACCO Unit Filters will economically and efficiently solve many Dust problems. They are placed next to or within a short distance of machines creating Dust, and a short pipe carries Dust to Filters. By writing DRACCO Engineers you may obtain the benefit of their 20 years of experience.



DRACCO UNIT FILTER

Write for Bulletin No. 302

DRACCO CORPORATION
Successors to The Dust Recovering & Conveying Co.
4053 East 116th Street, Cleveland, Ohio New York Office: 130 West 42nd Street
PNEUMATIC CONVEYORS • DUST COLLECTORS

Mention Item **NED-3814** when writing

FIRE GUARD

By expanding the lower end of pump cylinder of this fire guard, felts are not held in compressed condition, therefore they always fit snugly and the pump does not lose its efficiency by slippage. Chance of the piston sticking is eliminated for there is no metal to metal contact in expanded end of cylinder.

Among the features of this fire guard listed by the manufacturer are: Pump action with large discharge volume; high pressure handle seal which assures protection against vibration leakage; balanced discharge stream; safety method of attaching pump plunger rod to handle; and quick releasing safety bracket, allowing the extinguisher to be removed from bracket with one hand. Made by **General Fire Truck Corp.,** 2200 East Jefferson avenue, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3815** when writing

COMMUNICATION SYSTEM

Illustrated is an interorganization communication system combining paging and intercommunication in one system, over one set of wires giving the user speed, efficiency and dependability.

Calls go out over the system with the speed of light, direct to the person called and answered from any place within the area in which the outlying station is located. This feature eliminates necessity of going over to the station and yelling into it to be heard at the master station.

By means of a selector switch, this model 90 unit calls any one of the outlying stations or pages all of them simultaneously. If more than ten outlying stations are needed, an additional bank of selector switches and master switch are supplied, paging being accomplished from each bank separately. Outlying stations are also enabled to communicate with the master station but not to other outlying stations. Made by **Operadio Mfg. Co.,** St. Charles, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3816** when writing

FLEXIBLE COUPLINGS

Greater horsepower ratings and larger maximum bores are provided in five intermediate sizes of the Bondtrue flexible insulated coupling as a result of changes made recently.

In the coupling two metal flanges having projecting segments engage each other through a nonmetallic insert, or spider, the arms of which carry the load in compression. In this type coupling, power transmitting capacity is governed by both the outside diameter of the coupling and the total load bearing surface of the insert.

According to the manufacturer the coupling has been redesigned to employ inserts with 6 radiating arms, providing 3 driving points of contact. This is said to be a 50 per cent increase in the load bearing surface of the insert and has resulted in appreciable increases in the horsepower ratings of these five sizes. The flange hubs also have been enlarged to permit boring for larger shaft sizes.

Another innovation is the offering of the 0.25 horsepower size (B-11) in 38 different lengths, ranging from the standard $1\frac{3}{16}$ to $5\frac{11}{16}$ inches. These are made up of combinations of various length flanges, the longer couplings also having one or two bakelite extension members added. Made by **Charles Bond Co,** 617 Arch street, Philadelphia For convenience, use blank between pages 4 and 5.

Mention Item **NED-3818** when writing

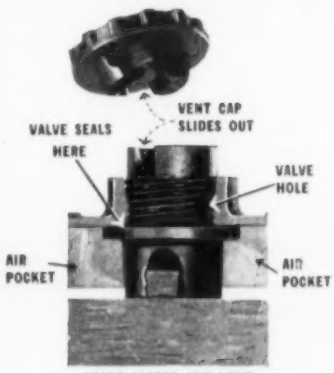
PORTABLE ELECTRIC DRILL

Here is a portable electric drill designed for use by contractors, automotive mechanics, plumbers, heating and ventilating contractors and maintenance men. Two such drills, styles number 581 and number 341 are available. One has a chuck capacity of ⅝-inch and the other a capacity of ¾-inch. Both drills have nickel steel gears, specially heat treated, are full ball bearing, have combination breast plate and spade and pipe handle which is detachable for close quarter work. They possess ample power to drill in metal, wood and composition. Made by **Stanley Electric Tool division,** New Britain, Conn. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3819** when writing

DEVICE FOR BATTERIES

A nonflood device for automobile storage batteries, to meet problems created by the modern practice of putting the battery under the hood has been developed. Three hard rubber parts, a barrel with two air vents, vent cap and especially designed cell cover, make up the assembly. The barrel is screwed into the under side of each cell cover before the battery is assembled, a flange making it irremovable through the top of the cell cover when the battery is ready for service. Another feature is a slotted top in which the vent cap slides sidewise when being removed or replaced.



VALVE CLOSED AND VENT CAP REMOVED. BATTERY FILLED WITH WATER.

In operation, the barrel moves up when the vent cap is unscrewed and at the same time the two air vents located on each side of the barrel are closed, trapping air within the cell. As water is added the air is forced to the top of cell, and when the electrolyte's level reaches the bottom of the barrel, the air pocket beneath the cell cover prevents further addition of water.

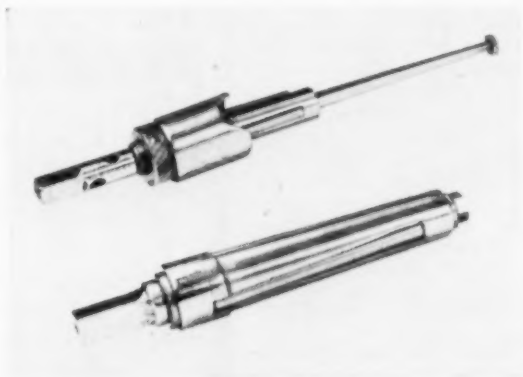
At this point, a small amount of water collects in the barrel, indicating that the safe filling level has been reached, with the nonflood device assuring sufficient space within the cell for the electrolyte to expand. Made by **B. F. Goodrich Co.,** Akron, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3820** when writing

TUBE EXPANDER

Illustrated is the latest improved tube expander for rolling in steel, copper, brass or aluminum tubes into boilers, condensers, water heaters, coils, heat exchangers and air conditioning equipment.

It may be used by hand or in a bit brace, or as a power unit developing 200 revolutions per minute

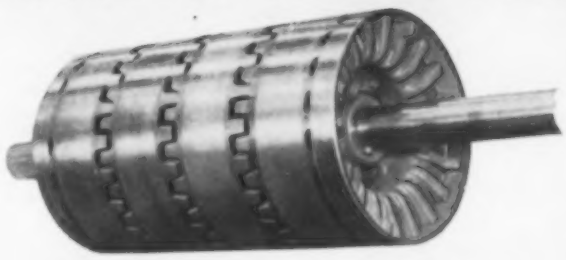


for production work. Expander is self feeding, efficient and tough. It is especially designed for tubes of small diameter, such as ½ to 1¼ inches outside diameter. It is powerful enough to roll tubes into very thick headers, and so constructed that rolls will not fall out. Made by **Ajax Expander Co.,** Fairview, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3821** when writing

Mention Item **NED-3817** when writing

MAGNETIC SEPARATORS



TO REMOVE IRON *from*

Foundry Sand, Ceramic Materials, Flour, Feed, Food, Ore and all Processed Materials.

THE Dings Magnetic Pulley Separator is the most powerful unit of its type on the market size for size! Its bronze spacers and coil covers do not short-circuit lines of force. Its air-cooled design provides twice the heat radiating surface of any similar pulley—cooler operation means more power.

And there is a Dings High Intensity Magnetic Separator for every iron-removal job—even to take out the most feeble of magnetic substances—substances which you might think could not be removed.

FREE MAGNETIC ANALYSIS—Send a sample of your material to the Dings Laboratory. You may be amazed to learn how much iron is in it, how much iron can be taken out of it! Absolutely no obligation. Send your sample *today*.

Write for Literature

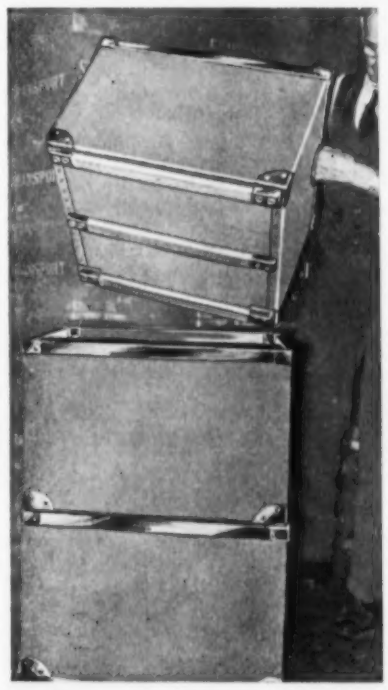
DINGS MAGNETIC SEPARATOR CO.
703 Smith St. Milwaukee, Wis.

Dings High Intensity MAGNETIC SEPARATOR

Separation Headquarters Since 1899

Mention Item **NED-3822** when writing

BOXES THAT STACK WHEN LOADED . . .



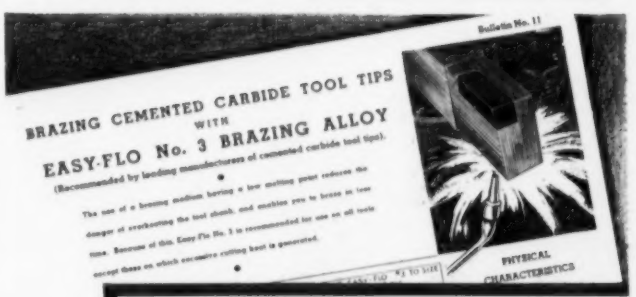
A specially designed pressed metal corner insures firm stacking of these strong, light, durable Diamond Fibre Boxes.

Two standard sizes are available—20" long, 20" wide, 11" deep — and — 23" long, 21" wide, 12" deep. All inside dimensions. Special sizes to order at no extra cost.

A metal dolly is also available for quick easy handling of tiers of stacked boxes. Send for catalog HW-1. Made by **Continental-Diamond Fibre Co.,** Newark, Delaware. For convenience, use blank between pages 4 and 5.

—*Advt.*

Mention Item **NED-3823** when writing



THIS BULLETIN
gives complete instructions on how to braze CEMENTED CARBIDE TIPS with

EASY-FLO No. 3

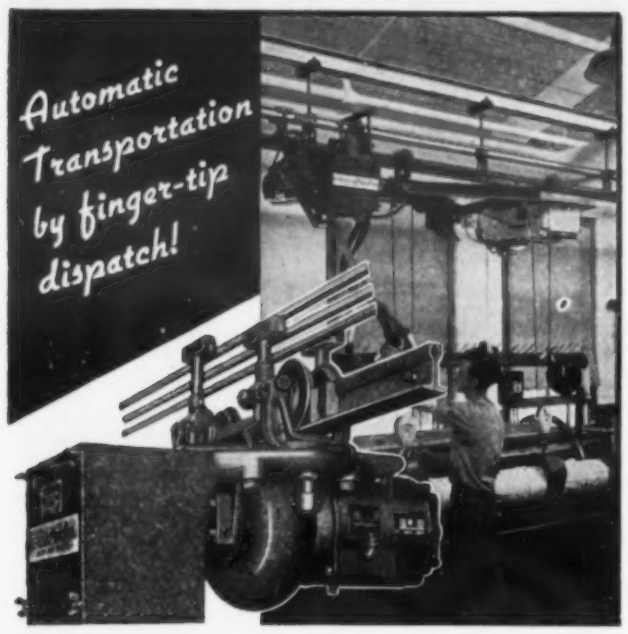
a low temperature silver brazing alloy recommended by leading tip manufacturers. It's fast, effective and economical—guards against overheating tool shanks. Write for a copy—MAIL THE COUPON TODAY.

HANDY AND HARMAN
82 Fulton St., New York

Send me a copy of Bulletin 11-2D

NAME .....
COMPANY .....
ST. ADDRESS .....
CITY ..... STATE .....

Mention Item **NED-3824** when writing



Loads as heavy as three tons are now dispatched for automatic transportation over monorail systems by means of the American MonoTractor.

This rubber wheel drive unit successfully propels hoists, carriers, and cranes at speeds up to 300 feet per minute.

Write for complete story in 24 page book.

AMERICAN MONORAIL CO
13116 Athens Ave., Cleveland, O.

Mention Item **NED-3825** when writing

A NEWS ADVERTISEMENT BY KEY COMPANY

SEALING COMPOUND EXPANDS UNDER HEAT

Leak Proof, Self Lubricating, Non-Setting

When subjected to heat, Key Graphite Paste expands and fills in every irregularity in the joint, such as battered gaskets, worn out screw threads and sand holes in Fittings . . . or any other defect in which a leak is liable to develop. It is the ideal sealing compound for use in all steam plant and boiler connections, hot oil and hot air lines, internal combustion engines, pumps, oil burning equipment or for any high temperature service.

To make the expansion-under-heat test of this compound, place small quantity on end of stick or piece of metal; hold over lighted match for a few seconds and note how the paste expands. Key Graphite Paste is also insoluble in oils which is shown in this way; spread small quantity of paste on back of hand; try removing it with gasoline, kerosene or other petroleum oils. Then note how easily it is removed with soap and water.

Key Graphite Paste requires only water for thinning and, hence, is very economical to use. Joints sealed with Key Paste are easily disconnected without damaging pipe threads or gaskets. It is listed by the National Board of Fire Underwriters and is carried in stock by leading jobbers throughout the country.

A liberal sample will be supplied on request. Write today.

KEY COMPANY, 2601 McCasland Ave., E. St. Louis, Ill.

Mention Item **NED-3826** when writing

ALL NEW RELAYS by GUARDIAN

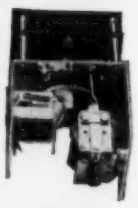
are PROVEN here

Before Production Begins

Guardian's Relay Assembly line in action, pictured in the above candid photo, turns out thousands of Relays every day. But before any relay goes into production, Guardian's **Experimental Department** must test it in innumerable ways. We must **know in advance** that your relays will **perform as** expected. A uniform, dependable, faultless product is the natural result. . . ANY QUANTITY AS YOU WANT THEM, WHEN YOU WANT THEM. No complaints . . . no post-mortems. When seeking a better source for relays, remember it's **not the largest factory BUT high quality, fast service,** and **conservative cost** that really count.

EXPERIMENTAL DEPARTMENT where a hundred variations of one relay are tested under the most extreme conditions before the final design reaches Guardian's production lines.

★ ★ ★



Type-R Stepping Relay

Ask Us to Make Specific Recommendations to Fit Your Special Requirements. Write for Catalog "G" Today!

GUARDIAN ELECTRIC
1626 W. WALNUT STREET CHICAGO

Mention Item **NED-3827** when writing

HEAVY DUTY SEAL

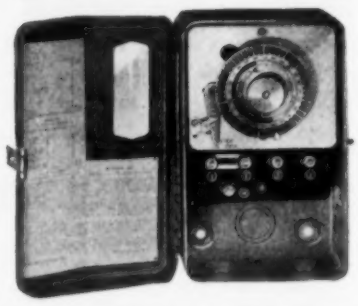
Undaunted by dust or abrasive-filled air these BB type vertical direct-injection diesel engines are a powerful asset to those municipalities, industrial plants and general power users who require a unit for heavy work.

Although developed for installation where continuous heavy loads are the order of the day, these machines are also ideal peak-load units for larger plants having other types of prime movers. They are particularly suitable for rock product plants, oil field work, grain mills, excavators and similar installations where quantities of dust fill the air. Made by **Worthington Pump & Machinery Corp.,** Harrison, N. J. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3828** when writing

TIME CONTROL

A new type of switching operation is incorporated in this time control line. It consists of a back and forth snap action, tripping lever actuated by trippers on the clear line dial. This can be manually operated by the finger, without changing the automatic switching sequence.



The switch construction is of the instant, snap action type, with heavy silver contactors. Rated capacity is 3000 watts per pole. All electrical operations are back of the fixed face plate. Through a clock train of five cut gears, floating on two fixed arbors, the speed of the self starting, 450 revolutions per minute, synchronous motor is reduced to one dial revolution in 24 hours. Made by **Paragon Electric Co.,** 37 West Van Buren street, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3829** when writing

BEARING PILLOW BLOCK

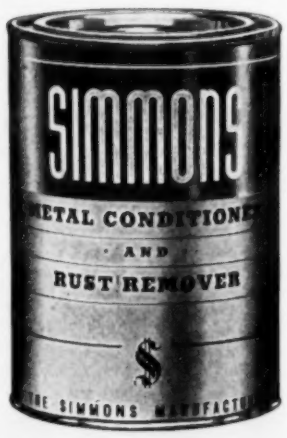
Outstanding feature of this new type of ball bearing pillow block is the permanent seal principle of the bearing, a positive, centrifugal sealing principle consisting of two inner and two outer steel seals. Inner seals one at each side of bearing, are pressed into outer ring and become permanent part of bearing, forming a tight grease chamber for race grooves and rolling elements.

External finger seals are pressed into position upon land of inner race ring. External seals are lined with felt applied with cellulose cement. Felt liners of external seals travel in labyrinth angular grooves of inner seals. When assembled into the labyrinth groove, felts have a running clearance sufficient to prevent pressure.

Centrifugal action of dished felt rings rotating in grooved labyrinth inner seals prevents glazing and excludes all foreign materials. Even though bearing is removed from shaft, the permanent seal feature prevents ingress of dirt, because the bearing is sealed within itself. Made by **Stephens-Adamson Mfg. Co.,** Aurora, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3830** when writing

RUST REMOVER



Here is a metal conditioner and rust remover that is nonpoisonous and harmless to material which thoroughly cleans and polishes all smooth surfaces. Made especially for the removal of tarnish from brass, copper, and bronze, it is equally effective when used on chrome, nickel, silverware, glass and tile. Since all cleaning is by chemical reaction, there is no necessity of hard rubbing.

To use the substance, all one has to do is wet a small cloth with water, place about one tablespoonful of the conditioner in the center, fold the cloth and work with the fingers until the powder has completely penetrated. The cloth, now converted to a dauber, is applied to the surface to be polished. Application of a damp cloth followed by a soft clean cloth terminates the work. Made by **Simmons Mfg. Co.,** Ashland, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3831** when writing

The safe 4-Way traction of INLAND 4-Way FLOOR PLATE prevents slipping and falling accidents—helps to make work move faster. It sweeps and drains quickly in all four directions, and saves money on floor repairs. Used for all heavy-duty flooring, stairs, ramps, etc. Order it from your local jobber, or write for location of nearest stock.

INLAND STEEL CO.
38 South Dearborn Street, Chicago
Sheets . Strip . Tin Plate . Bars . Plates . Structurals
Piling . Rails . Reinforcing Bars

Mention Item **NED-3832** when writing

TRANSFERRING MADE EASY

There are hundreds of places where products in boxes, cartons, shipping cases, and in the form of castings, motors and cabinets, etc., need to be transferred from one direction to another on a horizontal plane. The illustration above shows an example in which motor-pumps are shunted 90 degrees after being inspected and crated for shipment. Such an application of ball transfers eliminates lifting and lugging on the part of workmen. These transfers can be used on scale platforms, lift truck platforms, on work table tops, on portable transfer cars, they can also be placed about machines, facilitating the handling of work, in and out of machines. The ball transfer incorporates a large diameter steel ball which rotates upon a smaller bed of balls held in a cupped shaped race-way, and when arranged on close centers afford a mobile base upon which objects having a flat, smooth riding surface may be moved in any direction on a horizontal plane. Write the editors of NED for data sheets 111-112-113-114, or to the **Mathews Conveyer Company,** 188 Tenth St., Ellwood City, Penna. —*Advt.*

Mention Item **NED-3833** when writing

IT'S READY

TO HELP YOU SAVE MONEY

If you're interested in plant operation, you should have a copy of this new 28-page bulletin which illustrates dozens of the newest money-saving ideas in the handling of materials. P&H Trav-Lift Cranes, designed for intermittent service, are the practical, low-cost answer to scores of material handling problems. Ask for your copy of Bulletin H-13. Harnischfeger Corporation, 4537 West National Avenue, Milwaukee, Wisconsin.

HARNISCHFEGER CORPORATION
HOISTS · WELDING ELECTRODES · MOTORS · P&H · EXCAVATORS · ELECTRIC CRANES · ARC WELDERS

Mention Item **NED-3834** when writing

No room or shop is hard to heat electrically

Any spot that a BX cable can reach—and that means *anywhere*—can be heated adequately, comfortably, economically, by Chromalox electric air heaters. There is the answer to many problems, such as how to heat isolated rooms, watchmen's cabins, crane cabs,—or how to add heating capacity with an already overloaded heating system.

Engineers and industrial executives find the Chromalox Catalog and Handbook of Electric Heat of constant value for reference. Your request brings a copy.

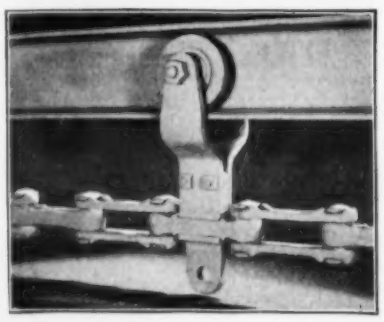
CHROMALOX
ELECTRIC AIR HEATERS

give you heat not only *anywhere*, but also at *any time*—an important saving when some part of office or shop works after hours. Also valuable for process heat. Made in types for all uses—salesroom, office, shop, home. Capacities from 1½ to 20 kw. Long service assured by the famous Chromalox electric heating element, in general use wherever industrial electric heat is needed.

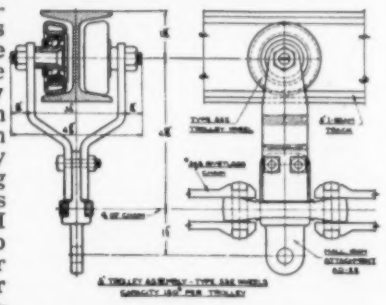
EDWIN L. WIEGAND COMPANY
7509 Thomas Blvd. Pittsburgh, Pa.

Mention Item **NED-3835** when writing

OVERHEAD TROLLEY CONVEYER



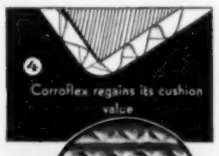
The overhead trolley conveyer is one of the most universally applied means of conveying various manufactured products in a continuous manner through production operations. Why? Because it uses ceiling space to advantage leaving plenty of room below for manufacturing facilities—permits aisleway clearances—descends with work at predetermined points of manufacturing operations—can be arranged to ascend or descend, turn at any degree, travel vertically—and operate thus, in a continuous fashion, the work passing operators at constant uninterrupted flow. Can be operated at variable speeds suitable to the manufacture and assembly of different products. Is constructed with anti-friction ball bearings used for carrying the load and therefore functions on a low power consumption factor. The unit shown represents a recently developed, ball bearing trolley which operates on a standard 3 in. I Beam track. Write to the editors of NED for data sheets 411-412, or to the **Mathews Conveyer Company,** 188 Tenth St., Ellwood City, Penna. —*Advt.*



Mention Item **NED-3836** when writing

PROTECT CORNERS IN SHIPMENT-CUT CORNERS IN COSTS *with Corroflex*

It's the "inner spring" cushioning action of Corroflex that gives your products extra protection in shipment. Here's the way it works: 1. Diagram at left shows cross section of corrugated paper on freshly wrapped package. 2. On impact the corrugations are compressed. And here's the difference: Ordinary corrugated wrapping paper 3. remains compressed--protection value is lost, whereas Corroflex 4. recovers its original cushioning value -gives protection from repeated shocks.



Send today for free sample roll
DEPT. N 2

The Mark of Better Protection
CORROFLEX
SHERMAN PAPER PRODUCTS CORPORATION
NEWTON UPPER FALLS MASSACHUSETTS

Mention Item **NED-3837** when writing

JOINT COVERS

Recently introduced and of interest to the construction industry is a joint cover which protects joints in copings on parapet walls and in projecting courses such as cornices, belt courses and multiple sills. With this cover, frost and moisture are no longer problems.

Cover is constructed of 12-ounce lead coated copper and is designed and shaped from one piece of metal so it will expand with the contraction of the stone. It will maintain a positive seal at the joints preventing the leakage of water down into the crevices. No special mastics or compounds are needed in connection with setting these covers in place. The regular mortar is all that is necessary. The covers can be utilized on old buildings as readily as they can be used for new projects. Made by **Dusing & Hunt, Inc.,** 1944 Elmwood avenue, Buffalo. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3838** when writing

COUNTING MACHINES

An entirely new series of counting machines including stroke and revolution counters in 20 variations to fit any industrial application, is being offered. These streamlined counters, known as series H Productimeters, have dust-tight metal covers finished with a dark gray crackle finish.

The counters require no attention or maintenance, as all shafts run on oilless bearings. Cut gears and working parts insure smooth operation over millions of counts. Louvered windows and all metal number wheels with large, black figures on white background facilitate reading at some distance from the unit.

Units are available in stroke or rotary models, nonreset, wing nut reset, or tumbler lock reset. Made by **Durant Mfg. Co.,** 1926 North Bluffum street, Milwaukee. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3839** when writing

STEEL STAMPS, MARKERS

Three different types of steel stamps and marking devices are shown here. One is a multiple wheel marking device made in two models. One is for use as a sledge for stamping hot material and the other is a model for hand use with a sledge for stamping cold work. The third item is an inspector hammer having changeable heads.

The billet marker is unique from the standpoint of its quick changing of figures or characters. Because the operator has all figures and characters at his finger tips, he loses little time.

Figures or letters are engraved on the wheels. These are capable of marking on metal up to 415 Brinell. Made by **Quality Die Co.,** 9308 Baltimore avenue, South Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3840** when writing

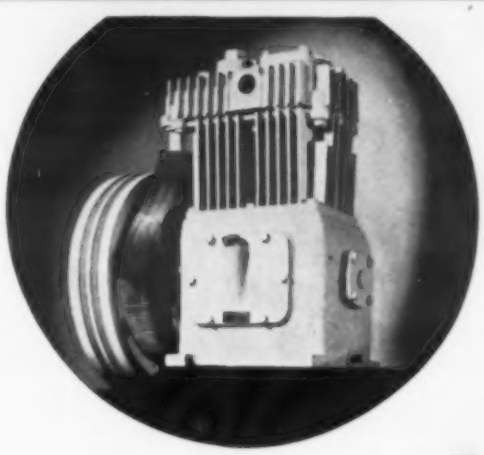
WHITE PRINT MACHINE

For making technical white prints this illustrated machine is ideal. It handles all sensitized materials up to and including 42 inches in width at speeds up to 30 linear inches per minute. The unit is only 56 inches wide and 18 inches high.

In it is included a rotating glass cylinder providing rolling contact instead of sliding static-producing contact. It also insures maximum utilization of the light rays emitted by the mercury vapor tube. All air entering the cylinder for cooling the mercury tube is filtered to minimize dust deposits on the burner contained within the glass cylinder.

The developer unit also contains many advanced features, chief of which is an automatic electrically-controlled drip feed for the aqua ammonia. This admits ammonia to the developing tank in proper metered quantities. Finished prints emerge at the rear of the machine, but front delivery also can be effected. Made by **Ozalid Corp.,** 354 Fourth avenue, New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3841** when writing



Compressed Air AT *Lower Cost* . . .

Again Quincy leads! This time with 9 new and improved air compressors—all masterpieces in equipment design. Outstanding overall efficiency. Radiation areas 12% greater. Simplified construction. Dustproof crankcases. Lubrication more thorough—more positive. Smoother, quieter operation. Sizes 2.8 to 30.1 c.f.m. Single stage—single cylinder, single stage—duplex cylinders and two stage models in wide variety of mountings. WRITE TODAY for complete details and latest prices.

QUINCY COMPRESSOR COMPANY
307 Maine St. Quincy, Ill.
Branches: New York • Chicago • San Francisco

QUINCY Compressors

Mention Item **NED-3842** when writing

Others Said It Couldn't Be Done.... G.P.&F. Did It

Partially elliptical and partially spherical—the upper bowl and enclosure was fabricated out of stainless steel by G.P.&F.

G.P.&F. accomplished this difficult stamping after others had claimed it to be impossible.

Consult G.P.&F.

Whether something you have in mind is impossible—or not—let us consult with you. Over a half century experience and 17 acres of plant are at your service.

Orange Juice Extractor—courtesy California Fruit Growers Exchange. Upper bowl fabricated by G.P.&F., stainless steel by Republic.

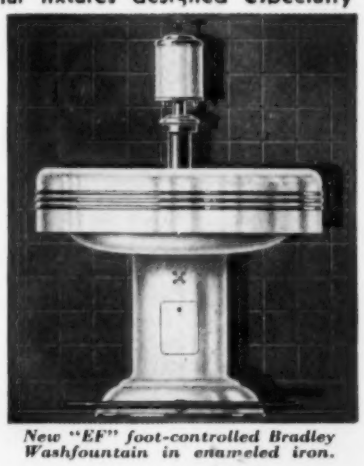
GEUDER, PAESCHKE & FREY CO.
Sales Representatives in Principal Cities
1449 W. St. Paul Ave., Milwaukee, Wis.
392 W. Ohio St., Chicago, Ill.

G.P.&F. STAMPINGS

Mention Item **NED-3843** when writing

NEW WASHFOUNTAINS
FOR SMALLER WASHROOMS

Included in the 1939 line of Bradley Washfountains are two new semi-circular fixtures designed especially for smaller washrooms of factories, mercantile establishments, institutions, etc.



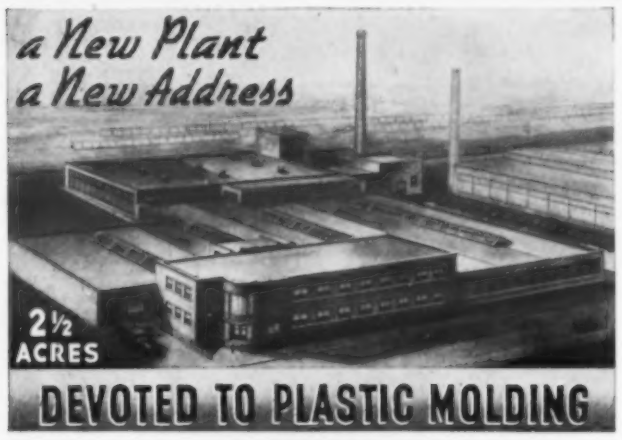
New "EF" foot-controlled Bradley Washfountain in enameled iron.

Handsome in appearance, they are available in enameled iron and stainless steel, —in hand or foot-controlled types and in three or six person capacities.

Like other Bradley Washfountains, the new fixtures assure the ultimate in sanitation because each user washes in running water. They save space, time and water, facilitate washroom supervision, are simple to operate, practically self-cleaning, and extremely durable. Write for new descriptive literature. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee, Wis.

Full-circle type Bradley Washfountain.

Mention Item **NED-3844** when writing



You are cordially invited to call and inspect this great new Custom Molding Plant.

Here you will find a spacious well equipped tool room manned by expert mechanics of long experience in mold making—a full complement of presses for both compression and injection molding—a finishing department geared to fast, accurate, economical production, and above all an engineering staff of unsurpassed ingenuity and ability ready to co-operate with you on your molding problems.

CHICAGO MOLDED PRODUCTS CORP.
1026 No. Kolmar Ave. Chicago, U. S. A.

Sales Representatives

510 Stephenson Bldg. Detroit, Mich. — 1225 No. Water St. Milwaukee, Wis. — 211 E. 14th St. Kansas City, Mo.
610 Plymouth Bldg. Minneapolis, Minn. — 3625 College Ave. Indianapolis, Ind. — 3650 Dover Place St. Louis, Mo.

Mention Item **NED-3845** when writing

NEW AND IMPROVED
IN DESIGN AND COMFORT!

THE Dustfoe RESPIRATOR

U. S. Bureau of Mines-approved for protection against Type "A" dusts—lightweight—compact—with very low breathing resistance, foolproof Army-type exhalation valve, protective filter cover ... *these and many other outstanding features* make the comfortable new aluminum and rubber Dustfoe today's great value in dust protection! Write for complete details in Bulletin No. NE-CM-2

1914 - - 25 YEARS OF SAFETY PROGRESS - - 1939

MINE SAFETY APPLIANCES COMPANY
Braddock, Thomas & Meade Sts., Pittsburgh, Pa.
District Representatives in Principal Cities

Mention Item **NED-3846** when writing

The Most HOIST for your MONEY

For 16 years the lowest priced Quality Electric Hoist. Built by specialists for dependable performance and long life. Has special heavy duty hoist motor, patented straight line drive, large drum-type controller—suspension parts of special heat-treated steel. Thousands in use. Half our sales are repeat orders from satisfied users. Satisfaction or Money Back Guarantee. The MAC Universal has everything you can ask in a Hoist. Investigate!

COMPARE THESE LOW PRICES

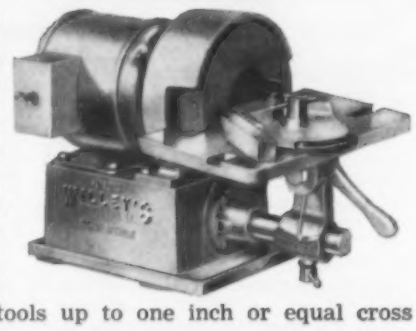
Capacity Pounds	3 phase—60 cycle Load FPM	Hook Type	Trolley Type	Single Phase or D.C. Load FPM	Hook Type	Trolley Type
500	32	$148	$159	28	$165	$176
1000	16	$159	$173	12	$176	$190
2000	8	$170	$187	6	$187	$203
2000	20	$290	$317	...	.....	.....
4000	4	$225	$249	3	$265	$289
4000	9	$300	$327	9	$340	$367
6000	9	$390	$424	9	$450	$487

Write for Chain Hoist Bulletin

McCOLLUM HOIST & MFG. CO.
4818 SARATOGA AVE. DOWNERS GROVE, ILL.

Mention Item **NED-3847** when writing

BENCH TYPE GRINDER



Here is a bench type grinder especially designed for sharpening Tungsten carbide tools and masonry drills quickly and economically. The table can be adjusted for either round or rectangular right and left hand tools up to one inch or equal cross sections.

The grinder is self-contained and provided with a reversible switch located inside of base and controlled by finger tip lever on the outside. The work rest table is made of semisteel and accurately machined. It is provided with a ⅝-inch wide keyway to guide and support the protractor tool rest and diamond tool dresser. The tool rest table has an angular adjustment in degrees determined by pointer operating with a graduated dial segment. All table adjustments are procured easily with quick clamping lever. Made by **Willey's Carbide Tool Co.,** 1342 West Vernor highway, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3848** when writing

CONDUIT FITTINGS

An addition of standard conduit fittings to a popular line of heavy duty industrial electrical equipment has been announced recently. The pylets include all standard types of threaded conduit fittings. The malleable iron bodies are galvanized and pro-

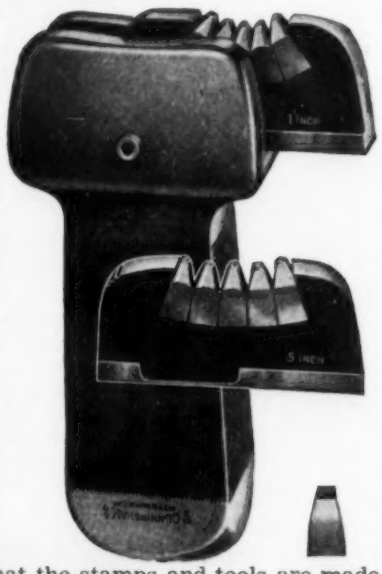
vided with a baked aluminum finish after galvanizing.

Large wiring space is provided, and rounded edges of cover opening prevent chafing of wires. Top surfaces are ground for perfect seating of covers, and cover screw holes are counterbored for self alignment of covers.

The two series of pylets have square corners to take standard switch and receptacle plates, as made by wiring device manufacturers. Made by **Pyle-National Co.,** 1334 North Kostner avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3849** when writing

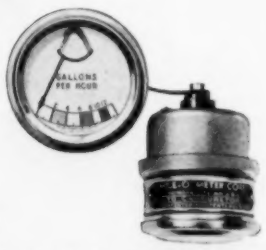
RADIUS HOLDER



Here is a recently introduced wedge grip radius holder employing interchangeable gear-tooth-shaped type for stamping round or curved objects such as pipe, shafts, gear blanks and forgings. Instead of straight tapered type, with limited radius, the gear-tooth type can be used on any radius by adopting correct slide for whatever radius is to be stamped. In other words, only one set of type and holder is required for various sized slides. An added feature is that the stamps and tools are made from nonmushrooming, nonspalling safety steel. Made by **M. E. Cunningham Co.,** 151 East Carson street, Pittsburgh. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3850** when writing

GASOLINE METER



A simple little device which should be of great interest to manufacturers using gasoline trucks of all types is this meter which indicates how many gallons per hour each power unit is consuming.

The device is mounted directly onto the carburetor and connects into the fuel line. It meters the gasoline flowing through it and electrically indicates the flow or rate of consumption on the panel in gallons per hour at any speed. It also tells unfailingly the brand of gasoline and oil giving the best mileage, and the most economical speed at which the truck engines should be operated. In addition, it instantly detects any let down in engine performance due to faulty ignition, carbureton, lubrication or mechanical wear.

Attached in ten minutes, the device requires less than ¼-ampere to operate on any standard fuel pump. Made by **Mile-O-Meter Corp.,** Michigan City, Ind. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3851** when writing

DRILL STAND

This bench stand, together with its OB-5½-inch drill, can be converted easily and quickly into a practical stationary drill press, according to the manufacturer.

The drill stand is designated as DS-5. For production or occasional jobs, its use greatly increases the work range of the OB-5 drill. The stand is fabricated 32⅝ inches high, above a base which is 11 inches in diameter with a 1½-inch diameter column. Made by **Signal Electric Mfg. Co.,** Menominee, Mich. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3852** when writing

DOOR PLANE

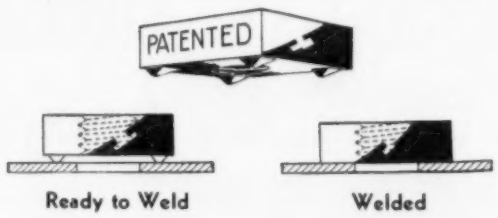
Illustrated is a new and improved door plane which incorporates a number of refinements such as a new power motor, faster adjustment for bevel cutting, a new and stronger lynite guide fence, and a faster and more positive lock on the adjusting shoe.

The plane provides an accurate method for fitting doors, sash, transoms, and for planing any wood surface 2 7/16-inch wide. The spiral cutter rotating at high speed planes any kind of wood with or across the grain, and leaves a finished surface that does not require sanding or scraping. It is provided with a convenient two-handle grip, hairbreadth adjustment and improved adjustable type beveling fence.

A grinding attachment is furnished with each plane for sharpening the spiral cutter. Made by **Mall Tool Co.,** 7740 South Chicago avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3853** when writing

OHIO WELDING NUTS



OHIO WELDING BOLTS

If you use resistance welding, investigate the savings and improved design made possible by Ohio Welding Nuts and Bolts.

For information and samples write to

THE OHIO NUT & BOLT COMPANY
608 Front Street, Berea, Ohio

Mention Item **NED-3854** when writing

SMOKESTACK PROTECTOR

Recently introduced by this company is a smokestack protector which shields chimneys and smokestacks from the elements, eliminating the ravages of sulphuric acid and dampness. It also prevents dangerous down-draft and stimulates natural draft, at the same time arresting sparks.

The protector embodies a main section constructed of tubular sections, height of smokestack regulating number of sections used. At the upper end of the main section which constitutes the discharge end, the stack is flared towards the top so that the area through which the products of combustion are discharged is greatly increased, without obstruction.

To protect the stack from the elements a circular guard band and two cones has been incorporated—the inverted cone to spread the gases to the atmosphere, and the cone with its apex pointing upward to act as a rainshield. Also, the construction of the guard makes it possible, through a space provided between band and the two cones, to permit snow, rain and ice to pass through. Made by **J. T. Cullen Co.,** Fulton, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3855** when writing

FILES FOR OLD RECORDS

For the bank, the insurance company, manufacturer or utility company in which storage of old records is a real headache, here is a bit of news. Recently developed and placed on the market is a new type of steel file which will accommodate checks, cash stubs, time cards, sales slips, invoices and thousands of other inactive records which must be kept. The files, it is claimed, actually cost less than any other method of filing.

Files are fire resistant and are said to offer positive protection to valuable papers from the ravages of dirt, dampness and rodents. The drawer type construction of the files makes their contents more readily available. They can be obtained in any size from 4⅛ to 3 inches high and 16⅛ to 13 inches high. They stack securely by means of an interlocking stacking device designed not to interfere with the outside smooth appearance. Several types of drawer arrangements also are available. Made by **All-Steel Equip Co.,** Aurora, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3858** when writing

This load was braced and the doors closed approximately *15 minutes after the skids were placed* in the car.

Bracing that requires from one to three or four hours with wood takes, on the average, about 30 minutes with Stanley equipment. More than this, it *increases protection* — less damage than with wood bracing. Verified by the Freight and Claims Division of the Association of American Railroads. It *reduces bracing costs* — cuts required labor for bracing by as much as 75%; materials by as much as $30 per car. It *saves on freight* — in some instances, dunnage is reduced up to 1400 lbs. per car.

Stanley engineers will gladly work with you to develop the most economical method of car banding your shipments. Write to-day — new illustrated catalog SS1, free on request. The Stanley Works, 177 Lake St., New Britain, Conn. STANLEY

STANLEY CAR BANDING SYSTEM

Mention Item **NED-3856** when writing

ENCASED CLAMP-AMMETER

The bakelite encased alternating current clamp-ammeter, recently announced combines 6 ranges in one instrument, and will measure current flow through conductors, insulated or noninsulated, up to 2¼ inches in diameter.

The instrument is equipped to measure low as well as high values. Any one of the 6 ranges may be selected by use of the range changer located at the thumb position. With a single conductor through the clamping jaws, current values from 1 to 500 amperes can be read.

Designed to be used at all commercial frequencies the magnetic circuit of the ammeter permits only the conductor within the clamping jaws to influence the indications of the instrument.

The entire instrument has been carefully designed to provide proper balance for easy reading. Case, handle and trigger have been molded from bakelite, affording maximum protection against electrical shocks. Trigger requires only 1¼ inches of travel for full opening of the jaws. Shatterproof scale glass eliminates change of breakage and a slotted end on the handle will accommodate a strap for hanging meter on a linesman's belt. Made by **Weston Electrical Instrument Corp.,** Newark, N. J. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3859** when writing

REINFORCED JACK

Illustrated is the new jack recently placed on the market which features bases made of malleable iron. This type of base construction is said to make the unit tougher and less subject to breakage due to dropping or rough handling. The jack is lighter in weight, and a peep-hole in the base enables one to see just how far the screw can be safely run out.

Additionally, it is claimed that friction is reduced some 88 per cent because of the floating cap which rests on a chrome-molybdenum steel ball. This cap has a 9 degree float which completely centers the load. Made by **Templeton, Kenly & Co.,** 1020 South Central avenue, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3860** when writing

LAMP COLOR CAPS

Illustrated is a color cap recently introduced for projector lamps. By simply snapping on the cover plates, attention-compelling lighting is obtained. Color filters of glass are available in light straw, day-

light blue, surprise pink, light blue-green, light red and amber. These new colors were developed in the Corning laboratories. Made by **F. W. Wakefield Brass Co.,** Vermilion, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3861** when writing

DUPOR

NEW, LEAD APPROVED

RESPIRATOR

★DUPOR "Original Twins" RESPIRATOR No. 46 has U. S. Bureau of Mines approval B. M. 2124 for use in type "A" or Pneumoconiosis Producing and LEAD Dusts. Double filters are equipped with filter pads that provide over 46 sq. in. of filtration and clear breathing area. It is foldable to fit the pocket and constructed to stand hard usage. Comfortable face cloth has also been approved. Here is maximum safety at lowest cost.

Sample postpaid $2.25

H.S. COVER 1940 CHIPPEWA ST. SOUTH BEND, IND.

Mention Item **NED-3862** when writing

Spots its load in car without backing

NEWS!

One man and a

CLARK CARLOADER

will load a freight car in 2 hours!

A gas-powered finger-lifting truck to handle loads up to 3500 lbs., tiering up to 60 in. or 108 in. Wheelbase, 38 in.; width, 38 in.; overall height, 83 in.; inside turning radius, 6 in.; outside turning radius, 67 in.; front wheel drive; rear wheel steer; speeds, 1 to 7 m.p.h. Enables one man to load or unload a box car in two hours. Ten models, including telescopic. Write for a copy of "The Clark Carloader Method".

CLARK TRUCTRACTOR

Div. of Clark Equipment Co.

118 Springfield Place, Battle Creek, Mich.

Mention Item **NED-3863** when writing

4 Models

The Burgess Acousti-booth blots up noise. Thus you talk and hear in quiet. Learn how this booth absorbs noise. Write for bulletin describing the 4 different models.

Stop costly mistakes this simple way

● In factory, shipping room, and office, noise interferes with phone service. Noise often causes serious misunderstandings of important instructions. Best solution to this problem is the Burgess telephone Acousti-booth. Instead of trying to shut out noise, the Burgess booth "blots it up." So successful is this principle that hundreds of manufacturers now use Burgess booths. Unless you are using Burgess booths, you cannot get maximum plant telephone service.

Send for the facts today!

Send the coupon below for free Acousti-booth Bulletin showing (for all models)—photographs, descriptions, specifications, prices and terms. Get this bulletin and learn how the Burgess booth blots up interfering noise.

Send me free Burgess Acousti-booth Bulletin

Name.....

Firm.....

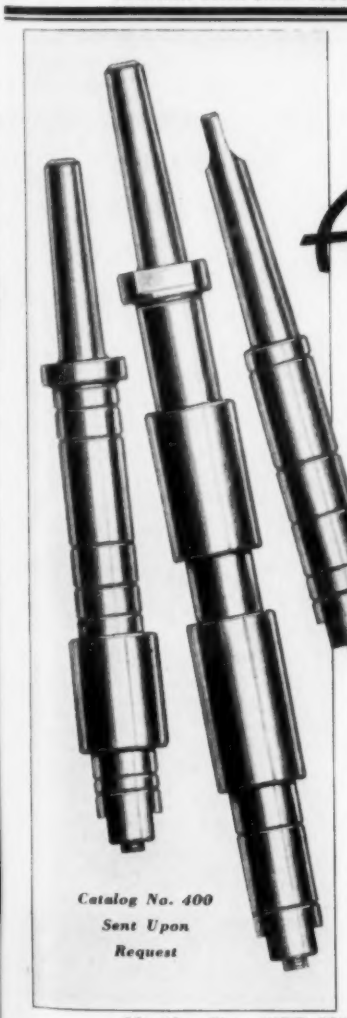
Street.....City.....

Burgess Battery Company, Dept. E, 500 W. Huron, Chicago

Manufacturing under Burgess Patents

BURGESS

Mention Item **NED-3864** when writing



MILLING MACHINE

Arbors

●

FOR ALL MAKES OF MACHINES

SCULLY-JONES

Arbors

REPRESENT QUALITY

●

Catalog No. 400 Sent Upon Request

SCULLY-JONES and COMPANY

1909 S. Rockwell St. CHICAGO, ILLINOIS

Mention Item **NED-3857** when writing

AGITATOR DRIVES

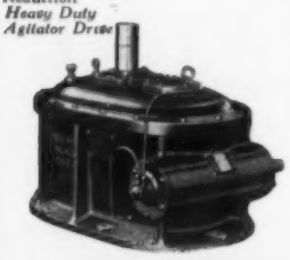
The Mark of Quality

Two Speed Double Motor Drive

FOR—:

CHEMICAL, PAINT, VARNISH, FOOD, RUBBER AND PAPER PLANTS, BREWERIES, & DISTILLERIES

Type AD Double Reduction Heavy Duty Agitator Drive



IXL Agitator Drives for processes involving agitation, mixing, stirring, beating, etc., are highly efficient, economical, safe and require minimum space.

Built by an organization with over 77 years experience in building better gearing, IXL Drives are built of the finest materials and are designed for maximum economy and efficiency throughout long years of service.

Send for Bulletin 601 Today!

FREE IXL HANDBOOK

Over 600 pages full of valuable gear data, engineering tables, charts, etc. A veritable textbook free to engineers, designers and executives. Send for your copy now.

FOOTE BROS.
GEAR & MACHINE CORPORATION
5322 S. Western Blvd., Chicago

Mention Item **NED-3865** when writing

ROOFS OF PITCH AND FELT ARE SELF-HEALING

Koppers Roofs are built up of successive layers of Coal Tar Pitch and Felt. Because of its cold-flow property, Coal Tar Pitch quickly heals small cuts and cracks that might otherwise ruin the roof surface. Koppers Roofs resist the action of water, even under prolonged exposure. They are widely used as cooling beds for water from air-conditioning systems. Write for your copy of the new Roofing Specification Book.

Koppers Company, 1146 Koppers Building, Pittsburgh, Pa.

KOPPERS

DESIGNERS MANUFACTURERS BUILDERS DISTRIBUTORS PRODUCERS OPERATORS

Mention Item **NED-3866** when writing

New Type Oil Line Hose

Laminated cellulose sheets wrapped on a specially profiled flexible metal core, form a positive, permanent oil-tight seal.

These sheets of prepared cellulose, impervious to hot oil, are drawn into the tube corrugations by special process. Flexing life is practically unlimited.

Synthetic rubber cover adds strength and body—is gripped by coupling sleeve. Cellulose wrapping protects the synthetic rubber from contact with conducted oil.

Metal braid prevents elongation under internal pressure and external end-load; protects tube against external injury.

Several leading Machine Tool firms now specify Avioflex. Tests show complete resistivity to hydrocarbon fluids, unlimited flexing life. Special coupling forms positive end seal. Data, sample, sent on request.

CHICAGO METAL HOSE CORP.
Maywood, Illinois

AVIOFLEX

Mention Item **NED-3867** when writing

MODERNISTIC DESKS

Keeping abreast with modern times, this company has introduced a new line of desks for offices which blend in with the modernistic surroundings of modern buildings.

Known as Steel Age desks, these units are furnished as standard in metallic gray finish with aluminum hardware and trim with black linoleum top. Other finishes can be furnished if desirable.

According to the manufacturer there is an abundance of storage space in each desk with facilities provided for cross filing in the box drawers. The outward design of each unit is such that sharp corners are eliminated. Island type, pontoon bases give ample foot room when seated or standing at the desk. The back panel is recessed to provide comfortable and convenient knee space on the opposite side of the desk. Provision also has been made for electrical connections. Made by **Corry-Jamestown Mfg. Corp.,** Corry, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3868** when writing

FORM WRITING MACHINE

Especially designed for use by wholesalers, jobbers, banks, public utilities, manufacturers, insurance companies, finance companies and all types of retailers, is this electric carriage, form writing machine with selective tabulation. By permitting operator to tabulate directly to any desired column on the form merely by depressing the key which selects that column, selective tabulation simplifies and speeds writing of financial and statistical reports.

When equipped with a front feed chute, machine is adaptable for registering checks and drafts, writing utility bills and other such forms. Insertion of these smaller, original forms does not disturb the journal, register, or distribution sheet which remains in the machine. Through use of continuous forms on which progressive sizes or other classifications have been preprinted as column headings, the number of key strokes required to write the body of an invoice is cut approximately in half.

Carriage movement from left to right is controlled by the electric carriage return key, which provides a full return or partial return to an intermediate position. The machine is available in varied carriage widths up to and including 26 inches. Made by **Burroughs Adding Machine Co.,** 6071 Second boulevard, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3869** when writing

PORTABLE WELDER

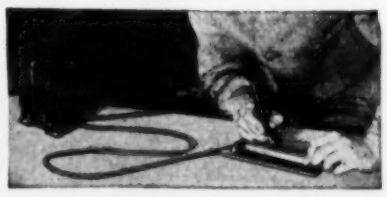
Illustrated is a welder which is exceptionally fast and easy to handle. It will work on any standard power line for continuous operation. Overhead as well as vertical and horizontal welds can easily be made.

Portable and easily moved into elevators and aisleways, this model E welder has a welding range of 20 to 280 amperes, and takes any size electrode from 1/16 to ¼-inch.

A single dial control gives choice of proper welding amperage for the job. Core of the transformer is constructed of silicon steel, transformer having two separate windings, primary and secondary, with air space between permitting proper ventilation. Made by **Hampton Electric Tool Co.,** 700 Walnut street, Edgewood, Pittsburgh, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3870** when writing

ELECTRIC ETCHER



Here is an electric etcher which marks iron and steel and their alloys, including hardened steels. It is used in the same manner as a pencil and can be used to engrave names, sizes, models, numbers or other important data on smooth surfaced parts, tools, dies, saws, plates and similar equipment. This helps to prevent mistakes in assembly, to avoid confusion in selection of tools and materials, and tends to lessen theft and loss.

The complete unit includes a handpiece and alloy point, transformer with three taps, special primary cord with tap changing switch, secondary leads of number 8 wire and a work plate. Three etching speeds are controlled by a switch on the primary cord. Depth of the etching is governed by the speed at which the point is moved over the metal. Made by **Ideal Commutator Dresser Co.,** 1032 Park avenue, Sycamore, Ill. For convenience, use blank between pages 4 and 5.

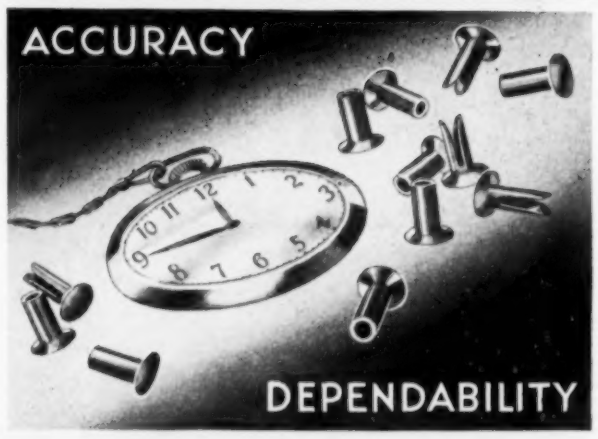
Mention Item **NED-3871** when writing

SUB-DRAINAGE PIPE

Pictured here is a vitrified clay subdrainage pipe. It is of the bell and spigot type, semicircular in shape. A superimposed cradle is an integral part of the pipe, and is somewhat shorter than the entire length to provide extra rapid drainage under all operating conditions.

Skip-pipe, as the product is called, may be used on many types of jobs including building foundations, highway construction and railroad right of way. It is manufactured of selected clays, is thoroughly vitrified and will not rust, corrode, or disintegrate. It is available in five sizes from 4 to 12 inches in diameter. Made by **Robinson Clay Product Co.,** Second National building, Akron, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3872** when writing



One of many machines adapted for every riveting use.

Inquiries invited, with samples of work you wish to do.

We have solved the riveting problems of America's leading industrial concerns. Today, T R & S rivets are recognized universally as the best—rivets that are 100% usable, that drive easily and are gauged with watch-like precision, that clinch with non-brittle smoothness.

Certainly, for greater sales, for real economy, the best in rivets should be specified.

TUBULAR RIVET & STUD CO.
World's Foremost Producers of Rivets
Wollaston Massachusetts

Mention Item **NED-3873** when writing

Wagner Totally-Enclosed Motors

In Dust-Laden Atmospheres They Will Save You Maintenance and Money

Where machines operate in the presence of abrasives, steel filings, chips, dirt and dust, Wagner totally-enclosed motors should be used. BECAUSE —

Dirt, dust, and chips cannot collect on their windings — thus insulation failures are prevented.

Clogging of materials in the air gap between the rotor and stator is prevented—thus frequent shutdowns for repairing and cleaning are unnecessary.

Dirt and abrasives cannot enter the bearings—thus longer life is assured.

Wagner types CP and TP totally-enclosed motors are suitable for installation in dusty locations and type HP motors are approved by the Underwriters' Laboratories for Class I, Group D, hazardous locations.

Motors for all types of industrial applications.

Check your plant and machines today. There may be places where totally-enclosed motors can be used to advantage. Write for Wagner Bulletin 182, which fully describes these motors.

M39-3

Wagner Electric Corporation
6400 Plymouth Avenue, Saint Louis, U.S.A.

Mention Item **NED-3874** when writing

GREASE SOLVENT

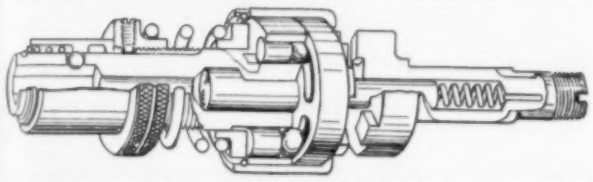
Especially developed for use by maintenance, mechanical and printing departments, this powdered Gre-Solvent is said to instantly dissolve and remove from the hands all machine grease, grime, printers ink and also many chemical stains.

Packing includes 6-pound containers, pour-top, 6 to the carton, and 100-pound drums. It also is available in individual 13-ounce containers utilizing a pour-top device. Made by **Utility Co.,** 636 West Forty-fourth street, New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3875** when writing

IMPACT CLUTCHES

A group of adjustable impact clutches, applicable to air nut setters and screw drivers ranging in capacity from ¼-¾-inch have been introduced recently. The clutches apply the impact principle to screw driving and nut setting. This increases the turn-



ing effort of the clutch so it is greatly in excess of the torque supplied by the motor. First, the torque of the motor drives the nut down, then the triple action clutch giving three impacts per revolution sets the nut to a predetermined tension. The torque at which the nut is set and the clutch released is governed by an adjustable spring. The operation is rapid and without shock to the operator.

The manufacturer claims that the work output of the clutches is greatly increased and that the triple action impact clutches give uniform tension to the nuts and screws on the assembly line.

The illustration shows type E-O M-1084 with X-1 double adjustable impact clutch for heavy duty ¼-inch nut setting, the E-1C M-1094 with X-201 double adjustable impact clutch has a capacity of ½-inch. Nut setters are available in larger sizes up to ¾-inch with spade handle as shown or with side handles, with complete accessories. Made by **Rotor Tool Co.,** 17325 Euclid avenue, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3878** when writing

SLEEPER & HARTLEY, INC.,
Designers and Builders
WORCESTER, MASS.

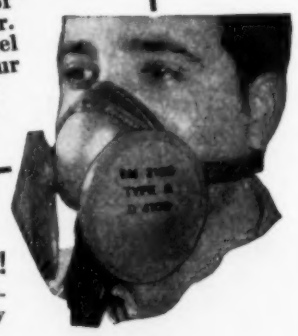
Mention Item **NED-3876** when writing

PULMOSAN RESPIRATORS

More than 40 Types for Dusts, Fumes, Gases, Smoke, Sprays

The extensive line of Pulmosan Respirators makes it easy for you to get exactly the type to most safely and economically meet your breathing hazards. Write us the source of your breathing danger. We'll send the model best suited to your needs—or literature and prices—as you wish.

FEATURING
- Safety
- Comfort
- Lightness
- Easy Breathing
- Durability
- Low Cost



EVERYTHING FOR SAFETY!

Pulmosan is "safety headquarters." Let us meet all your safety needs. Write for catalog.

PULMOSAN SAFETY EQUIP. CORPORATION

Dept. NED, 176 Johnson St., Brooklyn, N. Y.

Mention Item **NED-3877** when writing

CAULKING GUN

This new caulking gun was especially designed for application of caulk in cartridges. Only one cartridge is required to fill the gun, and loading is accomplished in five seconds.

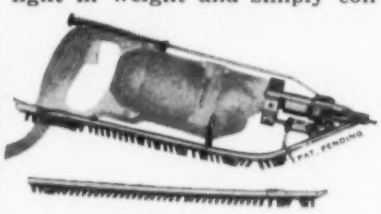
With these caulkers a bead of caulk may be applied by forcing the caulk through tips of various shapes and sizes. Besides caulking, the guns can be utilized for glazing, pointing and seaming.

The gun barrel is easily removed, and a quarter or half turn of the barrel permits operator to apply caulk in difficult places. The unit is available in 9 models and in 5 different sizes. Made by **Paint Makers Specialty Supply Co.,** Ivanhoe building, East Cleveland, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3879** when writing

SCREW DRIVER ATTACHMENT

Recently developed is an attachment known as Akromatic, adaptable to any portable power screw driver. It is very light in weight and simply constructed.



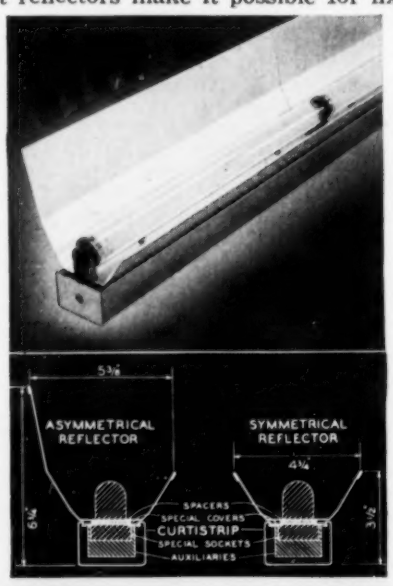
Little more than a feeding device, it confines the screw driver blade and screw head during the whole driving time so that with any type screw the driver blade cannot slip out of the head to spoil either the screw or work.

The device also has an adjustable limit control which is set to insure driving screws to the desired degree of tightness. When the screw is home there is no further rotation of the driver blade. Also incorporated in the gun is a screw magazine attached to the power driver. This delivers each screw singly into driving position, thus making the unit time saving. Device can be furnished for any size or type of screw that can be hopper fed. Made by **Akron Automatic Machine Co.,** 100 Beech street, Akron, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3880** when writing

FLUORESCENT REFLECTORS

Used when increased lighting efficiency or directional lighting are important these recently introduced fluorescent reflectors make it possible for fixtures to be used in a number of applications such as exposed or concealed mounting, continuous linear assemblies, suspended, cove, recessed or trough lighting.



The equipment utilizes a simplified wiring channel as the basis of all fluorescent assemblies. Lamps are neatly and compactly carried with a special snap-in cover for surface mounting installations. Reflectors are made of Alzak aluminum and are available either in symmetric or asymmetric shape.

Mounting brackets, straps and other supporting fittings are included to facilitate installations. Made by **Curtis Lighting,** 1123 West Jackson boulevard, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3881** when writing

SUBJECT: TANK-TYPE CLEANER

A SUPER-POWERED, IDEAL PORTABLE CLEANER

BLOWS — VACUUMS — SPRAYS

The *IDEAL* Tank-Type Cleaner gets dirt from any spot or corner. Reduces dust and fire hazards, as well as the destructive results of dust, dirt and grit on machines and equipment.

Heavy dirt and waste are trapped in tank. Only fine materials reach bag, thus fan, motor and bag are protected.

SUPER-POWERED—A full 1 H. P. Motor. Air Velocity—24,200 ft. per min.

PORTABLE — Gets into all spots where bulky cleaners or stationary cleaning units won't reach. *INEXPENSIVE!*

ASK ABOUT FREE TRIAL DEMONSTRATION

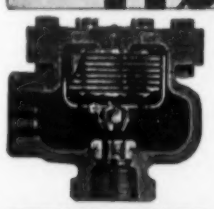
ELECTRICAL PRODUCTS DIVISION

IDEAL COMMUTATOR DRESSER COMPANY

1032 Park Avenue Sycamore, Illinois

Mention Item **NED-3882** when writing

It's **Nicholson** *for Positive Action*



UNDER A
WIDE RANGE OF PRESSURES

Veterans of years of service in American industry, Nicholson units have proved their ruggedness of construction and the sureness of their action under heavy duty. It's in severe service that Nicholson units have earned their reputation as "standards of comparison" for dependability and durability. Nicholson products: steam traps, welded steel floats, control valves, piston and weight operated traps, flexible couplings, expanding mandrels, arbor presses, compression shaft couplings, steam eliminators and separators, compressed air traps.

STEAM TRAPS

Cannot freeze, water-log or air-bind; intermittent discharge; largest water and air discharging capacity of any trap in its price range; same size valve at vacuum as at 200 lbs. Bulletin No. 337 on request. Sent on trial.

WELDED STEEL FLOATS

Chromium plated or stainless steel. Round and oblong; sizes 2½" to 14"; with threaded female spud or tube through center. For pressures to 2000 lbs. Write for bulletin No. 635.

CONTROL VALVES

Two, three, four-way, and special types. For operating air, steam, water or oil cylinders. Also lever, foot, solenoid and motor-operated types. Hydraulic pressures up to 5000 lbs.

W. H. NICHOLSON & CO.

162 OREGON ST., WILKES-BARRE, PA.

Mention Item **NED-3883** when writing

DO-ALL CUTS COSTS
at Doehler Die Casting Co., Pottstown, Pa.

Usual Time, formerly drilled and milled	80 hours
DoAll Contour Sawing	26 "
Saving	54 "

Plus saving end mills, drills and machine released for other jobs.

ACCEPTED METHOD

Contour Sawing is a new process of machining which eliminates drilling a row of holes, to cut out any internal or external shape. The DoAll cuts any metal or material (up to 10" thick) rapidly and smoothly. The narrow saws are inexpensive.

THE MODERNIZING MACHINE TOOL

The DoAll does the same class of work as a shaper, milling machine and tool room lathe. DoAll is a rugged precision tool that sells for 1/3 the price of any one of the machines mentioned above, and replaces them all. Users say it is the busiest machine in the shop.

DoAlls are used in quantities in large and small plants in 23 countries, and by such well-known firms as Ford, Fisher Body, Cadillac, Baldwin Locomotive, Douglas Aircraft, U. S. Navy, International Harvester, General Electric, Westinghouse, Ace Tool & Die, Glenn L. Martin, etc.

DO-ALL Contour Machine BAND SAWING BAND FILING BAND POLISHING

Let a factory-trained man bring a DoAll to your plant and show you what it does, what it saves on your own work.

FREE New Hand Book on Contour Machining—100 pages of valuable metal working helps.

☐ Send data and special prices on the DoAll.

☐ Send free Hand Book.

Name .....

Address .....

CONTINENTAL MACHINES, INC.
1314 S. Washington Ave., Minneapolis, Minn.

Mention Item **NED-3884** when writing

TEST THIS NEW FASTENING UNIT!

SEMS* TRADE-MARK

PRE-ASSEMBLED SHAKEPROOF LOCK WASHER and Screw

Can't COME OFF!

SAVE TIME . . . CUT COSTS . . . IMPROVE PERFORMANCE

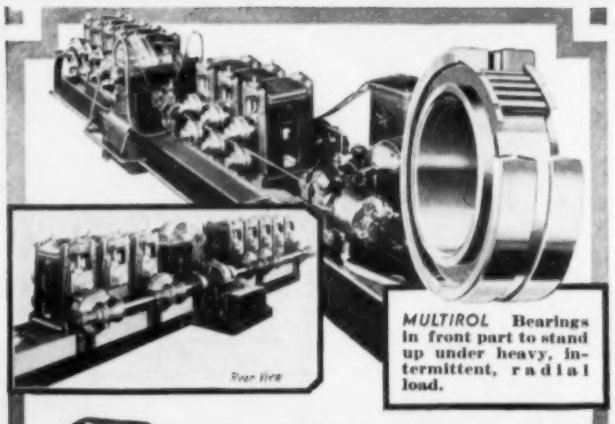
FREE STOCK SAMPLES WRITE TODAY!

Try SEMS yourself! See how this new fastening unit saves money. No more time lost putting lock washers on screws—no wasted or lost lock washers—the correct lock washer for each type and size of screw; these are only a few of the many advantages SEMS offer. Full details and free stock samples sent on request—write today.

*SEMS is the trade-mark of Illinois Tool Works, manufacturers of Shakeproof Lock Washers. Only genuine Shakeproof Lock Washers are used in the manufacture of SEMS.

SHAKEPROOF LOCK WASHER CO.
Distributor of Shakeproof Products Manufactured by Illinois Tool Works
2583 North Keeler Avenue Chicago, Illinois
IN CANADA: Canada Illinois Tools, Ltd., Toronto, Ont.

Mention Item NED-3885 when writing



MULTIROL Bearings in front part to stand up under heavy, intermittent, radial load.

McGill Radial Ball Bearings, single row type, used in back part of tube mill to withstand end thrust.

McGILL Bearings . . . Ideal for the Job

American Electric Fusion Corporation, Chicago, manufactures "A. E. F." tube mills that form, weld and straighten 1½" to 2½" tubing from 16 to 24 gauge flat stock in one operation. There's a job for bearings! McGILL Bearings are doing it, too. They can do as well for you. Send for catalog today.

McGILL MANUFACTURING CO.
1250 N. Lafayette Street
VALPARAISO, IND.

Mention Item NED-3886 when writing

CURRENT MEASURING HAS NEVER BEEN SO EASY

Current measuring has never been so simple . . . so quick . . . as with the Tong Test Ammeter. Merely by encircling it around the conductor, as shown below, you get an accurate current reading in five seconds, without interrupting operations or breaking the insulation. Think of the time you could save in your plant with this remarkable, low-cost instrument. It can be used anywhere, by anyone, and measures A. C. or D. C. up to 800 amperes.

Compare Tong Test with your present measuring method by sending for a copy of the Tong Test bulletin. It contains surprising facts and is yours for the asking.

Volter, a Tong Test attachment for quickly measuring voltages, is also available.

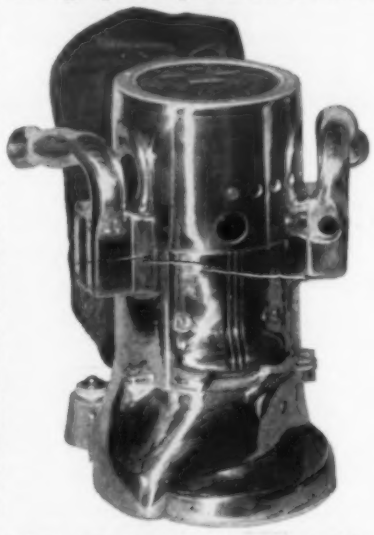
COLUMBIA ELECTRIC MFG. COMPANY
4517 HAMILTON AVENUE CLEVELAND, OHIO

TONG TEST AMMETERS

Mention Item NED-3887 when writing

ROTARY EDGER

This new model rotary edger is available in two sizes, 7 and 8-inch, and the manufacturer claims that there is more than enough power provided to maintain full speed of the sanding disk and the vacuum fan under severe loads.



The edgers are practically dustless. A scientifically designed intake which extends around three quarters of the sanding disk leads the dust into the chamber where every particle is picked up and deposited in the bag by a larger and improved fan. This fan runs at a speed of 12,000 to 15,000 revolutions per minute.

Quiet running helical cut gears, the elimination of all trace of vibration by balancing revolving parts and the use of bearings larger than the usual, combine to make this edger a quiet, smooth running machine despite the fact that the sanding disk is operating at a speed of 3000 revolutions per minute. Made by **Porter-Cable Machine Co.**, Syracuse, N. Y. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3888** when writing

SHIPPING CONTAINER

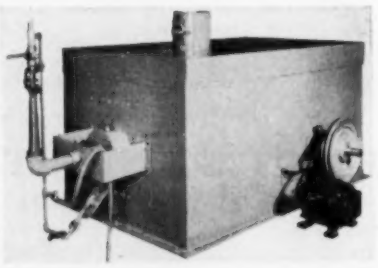
Small-lot shipments of quick-frozen foods, biological products, fish, flowers and all types of perishables will be facilitated by a recently introduced container.

The container is about the size of a large trunk. Its ten cubic foot storage space provides a cargo capacity for 300 to 400 pounds of food, and in addition, the ice bunker will hold 100 pounds of dry ice, or 90 pounds of water ice. Tests have indicated that the contents can be kept some 72 hours.

The outside of the container is covered with 24-gage galvanized steel, while the inside has a lining of the same metal of 26-gage thickness. The cover and bottom of the cabinet are insulated with 3¼ and 3½ inches of glass wool respectively, while sides are filled with ten layers of thermocraft panels of the type used in domestic refrigerators. Made by **General Electric Co.**, Schenectady, N. Y. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3889** when writing

ELECTRICALLY HEATED TANK

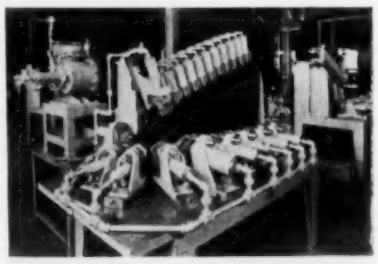


This tank made of heavy welded steel is heated by electric strips clamped to the lower external surfaces. Loss of heat is reduced by a double wall insulated jacket enclosing 4 inches of rockwool insulation. Heavier insulation is provided for higher temperatures. An indicating temperature controller with magnet switch is provided for automatic control and a three heat switch is used to reduce input when operating at the lower temperatures. The tank can be used for waxes, compounds and for oil tempering. Made by **Lydon Bros.**, 229 Colden street, Jersey City, N. J. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3890** when writing

PUNCHING DEVELOPMENT

This development in punching and stripping equipment involves a new principle for such equipment based on the combination of hydraulic pressure with balanced spring action. There are two types of units, one for single punch operation and another for a multiple of punches per unit. Up to 2000 pounds per square inch, both types may be operated either by motor driven pump or air hydraulic booster. For higher pressures the boosters are used.

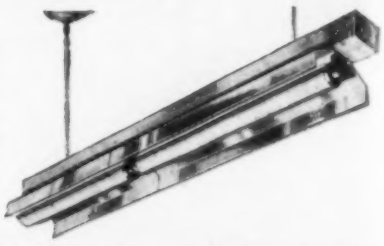


The design of the multiple punch hydraulic unit permits use of a single acting piston. This permits a greater bearing surface for the piston and rod and requires less piping. Close adjustment of the entire unit in relation to the work is provided at the mounting bracket.

In the single punch unit, stripping is performed entirely through the action of balanced springs, the operation being completely automatic. The multiple punch unit shown is available either for hydraulic or mechanical stripping. Made by **Progressive Welder Co.**, 737 Piquette, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3891** when writing

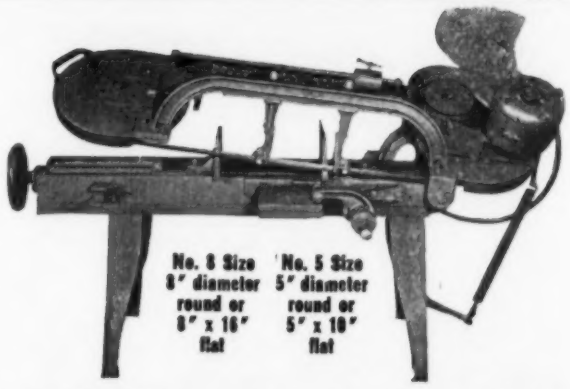
FLUORESCENT UNIT



The fluorescent lighting unit illustrated is suited especially for industrial inspection lighting, continuous lighting over work benches and similar applications. Because of the adaptability of fluorescent daylight lamps for use in any location requiring accurate color discrimination, these units with a daylight bulb are used in inspecting porcelain enamel products, painted or polished surfaces, paint mixing, mixing of printing inks, matching of colors and inspecting and working on textiles.

The unit is available in either single units or continuous installations of any desired length. Reflectors are available in either Alzak processed aluminum or standard polished aluminum, and there is a selection of reflector shapes to meet widely varying conditions. Made by **Wilson Lighting Inc.**, 411 South Clinton street, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3892** when writing



A BETTER Way to Cut Metal CLEAN—FAST!

WELLS Metal Cutting Band Saws are the ideal units for all around cutting jobs. They cut metal clean and fast with unerring accuracy. Their versatility makes them invaluable in any part of your plant or shop. They are economical too—years of experience have proven there is practically no upkeep cost on Wells Metal Cutting Band Saws! Learn for yourself why you should "Saw it the WELLS Way"—Write WELLS MANUFACTURING CORP., Three Rivers, Mich.

Ask about our FREE TRIAL PLAN

WELLS MFG. CORP.
WELLS METAL CUTTING BAND SAWS
THREE RIVERS, MICH.

Mention Item NED-3893 when writing

These remote-indicating instruments report *on the instant* . . . from plant to office . . . every stroke, revolution, or other performance-unit of the machines to which they're connected. You can group any number of these counters *any distance* from the actual scene of operation . . . and see at a glance exactly how production is going. Mechanical contacts on the machine make and break the circuit that operates the counter. Easy to install and connect. Unlimited in application.

Write for Catalog G-37.

Veeder-Root INC.
HARTFORD, CONNECTICUT
Offices in Boston, Chicago, Cincinnati, Cleveland, Detroit, Greenville, S. C., Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, Montreal, Canada, Buenos Aires, Mexico City, London, Paris, Tokio, Shanghai, Melbourne

Mention Item NED-3894 when writing

LEATHER HANDGUARD

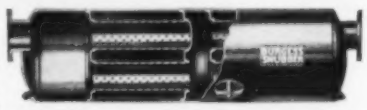
Illustrated is a reversible chrome leather handguard which fits either hand and provides protection in handling operations including metal sheets, metal shapes, stampings, bars and angle irons. The guard is said to give double service as it can be worn on either hand.

In order to assure maximum protection, steel ribbons have been placed diagonally on wearing surfaces to give the greatest protective service against sharp cutting edges of objects handled. The guard is 7 inches long and may be worn in connection with a cotton glove or over the bare hand. It also is available in 6 and 7½-inch lengths and in plain leather, wool felt, cotton webbing or rubber without steel ribbons. Made by **Industrial Gloves Co.**, 555 Garfield boulevard, Danville, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3895** when writing

NOISE-QUIETING DEVICE

A new type of noise quieting device which is non-accoustic and can be placed at any point in the intake or exhaust system of an engine or compressor, has recently been developed. Since it eliminates the cause of noise produced by the pulsating gases by snubbing the peak velocities and pressure and producing a smooth flow of gas, the new device is called a snubber.



Two aero dynamic effects are involved in the operation of the snubber. First, the fast moving slug of exhaust gas, which is vented into the exhaust system by the opening of the exhaust valve, is trapped in a high resistance snubbing tube. This tube is perforated radially to allow the pent up gas to vent gradually into the first snubber chamber. At the same time, a recoil pressure from the snubbing tube serves to slow up the flow of scavenged gases and prevents pressure dropping below atmospheric pressure.

The slower moving scavenged gases do not enter snubbing tube but are diverted through a low resistance exhaust tube in the first chamber. A second stage of snubbing, comparable to the first, removes any remaining impulses which may be present. Back pressures can be eliminated or controlled to any desired value. Made by **Burgess Battery Co.**, 500 West Huron street, Chicago. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3898** when writing

HAND TACHOMETER

Illustrated is a hand tachometer by use of which the solution to a wide variety of speed measuring problems can be solved. This unit registers the speed as well as the rates of vibration merely by being placed in mechanical contact with the machine or apparatus under test. Known as the Frahm vibrating tachometer, the unit can be used on very small motors as it imposes no load. It can be used in any position and does not have to be oiled as there are no wearing parts. It can be utilized for numerous applications ranging from speeds of electric shavers to rates of vibration of pneumatic hammers and drills. Made by **James G. Biddle Co.**, 1211 Arch street, Philadelphia. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3899** when writing

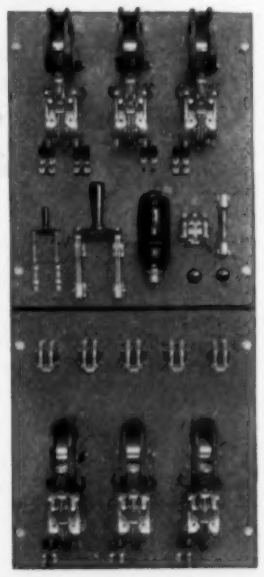
SKID LIFT TRUCK

The No. 33 skid lift truck is capable of lifting from 1000 to 1500 pounds as high as 33 inches. It has an all steel welded frame, heavy duty gear box equipped with worm gear to which a steel cable is connected for raising and lowering the platform. This is accomplished by means of a hand crank. It also has swivel wheels on one end which facilitates easy and free movement. Its operation is very simple. A turn of the crank handle and the truck can be raised to the desired level. When the stack on the skid becomes low, another turn and the platform is brought to the right height. When the stack becomes too high, a turn in the opposite direction brings it again to the right working level. Made by **Ekstrom, Carlson & Co.**, Rockford, Ill. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3900** when writing

NEO-TIME CONTROLLERS

For those manufacturers who incorporate the use of fans, saws, shears with flywheels or similar machines in which it has been necessary to provide special accelerating relays in order to secure the time required for proper acceleration of load, this new line of starters and controllers using Neo-time acceleration may be just the equipment they have been seeking. This line automatically controls the acceleration of either alternating or direct-current motors.



Neo-time principle is based on the time required to charge a condenser to a predetermined voltage. When this voltage is reached, the condenser discharges through an industrial type neon tube to cause the first acceleration contactor to close. When contactor closes, the same timing circuit is re-energized to close the next accelerating contactor and this operation is repeated until the motor is operating on full line voltage. Illustrated starter permits a range of from 3 seconds per acceleration step up to over 30 seconds maximum per step by simply turning the adjusting dial. Made by **Electric Controller & Mfg. Co.**, 2700 East Seventy-ninth street, Cleveland. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3901** when writing

Do you have these problems in grinding and finishing small holes?

IS IT difficult or costly for you to produce an absolutely straight, round hole, accurate within .0001" with mirror finish — in diameters of .245" to 2.400"?

Then the Sunnen Precision Honing Machine will save you time, trouble and money for it provides a practical shop method of accurately finishing internal cylindrical surfaces.

It has helped hundreds of manufacturers in their Tool Rooms or Assembly Department for salvaging or repairing parts hard to relocate when a small amount of metal is to be removed.

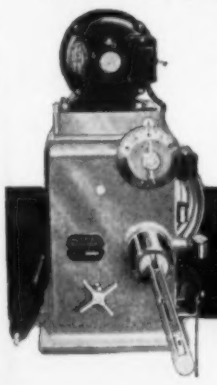
It is a real time saver for resizing parts after hardening.

No impregnation of the surface because a bonded stone is used.

Solid cutting pressure applied by sliding tapered wedge.

Send us a few of your parts and tell us your problems. We will hone them to your specifications in our honing laboratory and return them for your inspection with our recommendation of equipment to handle the job.

Or write for catalog sheet giving full details.



SUNNEN

Sunnen Precision Honing Machine

Sunnen Products Co.
8001 Manchester Ave., St. Louis, Mo.

Mention Item **NED-3896** when writing

SAVE 1/2 OF EVERY HOUR IN ASSEMBLY

THE NEW SPEED NUT WAY

Speed Nut System

Any product assembled with the SPEED NUT system is **better** assembled at about half the cost. One SPEED NUT replaces both threaded nut and lock washer. Its firm spring tension grip prevents vibration loosening and absorbs any movement from temperature changes. Plastics, porcelain or glass may also be securely held without breakage. SPEED NUTS are manufactured from high carbon spring steel to provide positive holding power for the life of the product. Phosphor bronze or stainless steel SPEED NUTS are supplied where extreme conditions of corrosion exist. Made for most standard sizes of machine screws, stove bolts, metal screws, metal rivets and plastic studs. Many special shapes and sizes also developed for mass production products. Write today for samples, stating sizes you want and where you expect to use them.

SPEED NUT DIVISION TINNERMAN STOVE & RANGE CO.
2044 Fulton Road, Cleveland, Ohio
Manufacturers of Patented SPEED NUTS

Mention Item **NED-3897** when writing

What Kind of *Power* Do You Sell?

NO matter what you make in power driven machines or equipment your customers look to you for satisfaction in the power unit—expect you to provide dependable, economical, and trouble-free motor power. Dependable performance is of even more importance in gasoline motor powered machines and equipment, because they are so often in use in remote locations.

More manufacturers endorse and use Briggs & Stratton 4-cycle air-cooled gasoline motors than any other make because they know they are "selling" dependable, trouble-free power — and they are assuring greater satisfaction with their own products.

Let us aid you in selecting Briggs & Stratton models with the best features for your requirements. A full range of sizes from ½ to 5 H.P. for every application.

Powered by 4 CYCLE BRIGGS & STRATTON GASOLINE MOTORS

BRIGGS & STRATTON CORP.
Dept. NE-139
Milwaukee, Wisconsin, U. S. A.

Farmers know Briggs & Stratton Gasoline Motors—accept them as their guide when purchasing any small gasoline powered equipment, tools, or home appliances. Over a million in farm use testify to their dependability . . . economy . . . durability.

Mention Item **NED-3902** when writing

KINNEAR ROLLING DOORS

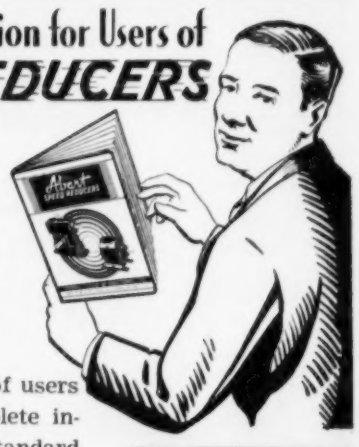
In size and performance both, Kinnear Rolling Doors "measure up" to the most rigid requirements. Their rugged, all-steel construction stands up through years of daily heavy-duty service, resisting weather, fire and wear . . . and their efficient, convenient UPWARD ACTION means reduced exposure to damage by trucks or wind. And as for size, there are no stock doors . . . and therefore practically no limitations to the size or proportions to which Kinnear Rolling Doors can be built. Every door is especially built! When you use Kinnear Rolling Doors your individual door problems are eliminated!

Because **THEY ARE MADE TO THE MEASURE OF YOUR JOB**

The **KINNEAR** *Manufacturing Co.*
3017 Fields Avenue, Columbus, Ohio

Mention Item **NED-3903** when writing

Valuable Information for Users of *SPEED REDUCERS*



Most of the very first Abart Speed Reducers manufactured are still running! This alone speaks well for the best designed speed reducers made. For **you**, and for the special convenience of users of speed reducers, complete information on Abart's standard sized units has been compiled in this catalog now ready for distribution. You can secure a copy, by sending your request on your firm letterhead at once. The supply is limited, so do not delay. Write

Abart GEAR AND MACHINE CO.
4822 WEST 16th ST CHICAGO, ILLINOIS

GEARS

Cut gears all types and materials. Abart is especially well equipped to produce straight bevel gears, spur, helical, internal, worms and worm gears. We specialize in the smaller sizes. Send specifications and prints for convincing quotations.

Mention Item **NED-3904** when writing

New MALLEABLE IRON BASE for GREATER SERVICE and Safety!

Simplex introduced the major improvements in Screw Jacks—Simplex now introduces the Malleable Iron Base. Now you get greater protection than ever against breakage from rough handling; greater safety; reduced weight; at no extra cost!

Other exclusive features include: self-leveling drop forged cap with 9° float; safety peep-hole in base to prevent turning screw out too far; faster raising and lowering with 88% less friction because of the centralized ball bearing.

Write for bulletin on Simplex Malleable Iron Base Screw Jacks or catalog covering the most complete line of the sturdiest, most efficient screw, lever and special Jacks made.

Stocked by your supply house.

TEMPLETON, KENLY & CO.
CHICAGO

Don't say "Jack"—say
SIMPLEX

Mention Item NED-3905 when writing

Let **OUR** *experience*
pay **YOU** **DIVIDENDS!**
. . . bring Your Handling **HEADACHES** *to* **MACWHYTE.**

Let our engineers help you, as they've helped leading manufacturers for years . . . to solve the problem of getting better service at lower cost, through the use of Macwhyte ATLAS Safety Slings.

Braided . . . extremely flexible . . . unusually strong and lightweight, Macwhyte Safety Slings have no superior! They really hug that load, make it safe to handle.

REMEMBER: our consulting service is yours. It's given cheerfully on all problems, big and little.

This BOOKLET is yours . . . for the asking

"How to Handle Loads Safely" is practical. Shows you on-the-job pictures of slings in use on all kinds of handling jobs. Send for it today.

MACWHYTE COMPANY
Kenosha, Wisconsin

Mention Item NED-3906 when writing

HOW TO AVERT ACCIDENTS

Fig. 1645
Pat. appld. for

AND PREVENT BREAKDOWNS
—equip your machines with
UNBRAKO
SELF-LOCKING
HOLLOW SET SCREWS
with the Knurled Points

Here are the set screws that cannot loosen up in service . . . that cannot cause trouble by failing to perform their intended duty. So cleverly have they been knurled around the cup points that by merely tightening them in the normal way, they are securely and automatically locked in place. This not only eliminates the possible breakdowns that might follow a set screws vibrating loose, but it makes frequent check-ups unnecessary.

Removal for adjustments is easily done with the customary wrench and the Knurled Self-Locker can be used again and again. These "Unbrako" Self-Lockers have been carefully and thoroughly tested in many different plants and under varied conditions. The results substantiate our every claim.

Send the coupon for complete information and samples.

STANDARD PRESSED STEEL CO.
BRANCHES: BOSTON, DETROIT, INDIANAPOLIS — JENKINTOWN, PENNA. BOX 581 — BRANCHES: CHICAGO, ST. LOUIS, SAN FRANCISCO

Send me all the facts about "UNBRAKO" Self-Locking Hollow Set Screws.

Name.....
Firm.....
Address.....

Mention Item NED-3907 when writing

New Applications

GLASS BARBER SHOP

Introducing—The barber shop of the Wall street tycoons. It's not the fact that the "big" men who visit this shop puts it in the limelight, but that it is an excellent illustration of what to expect in the age of glass.

The walls of the shop are of vitrolite glass in ivory and black agate, lined to a height of 8 feet with vitrolite with black agate wainscoting and ivory colored in the panels above. The hat-rack, at left, is of stainless steel in a glass-lined niche. For waiting patrons there are luxurious leather built-in seats equipped with structural glass end tables. The diffused light for reading comes from recessed sources.

The barbers just push buttons for soap and lather, and shampoo hoses disappear when not in use. Bottles and accessories are kept out of sight in cabinets behind glass doors. Made by **Libbey-Owens-Ford Glass Co.,** Toledo, O. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3908** when writing

X-RAY TUBE

Although originally developed for use in hospitals this X-ray tube also is ideal for applications in the industrial field for such uses as radiographic examination of large steel castings five inches or more in thickness.

The unit will produce X-radiation equivalent to that of about 8.5 pounds of radium. The tube operating at 1,000,000 volts against 800,000 volts for usual X-ray equipment, is completely self-contained and requires no specially constructed building containing lead to protect operators. The equipment weighs 4000 pounds. The high-tension winding of the transformer consists of more than 100 thin, flat coils of wire. The primary winding is a pancake coil of still copper.

Completely enclosing the tube and coils is a steel shield which in effect becomes the core of the transformer, although located on the outside of the coils. Made by **General Electric Co.,** Schenectady, N. Y. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3909** when writing

SEALING CARTONS

A unique method of sealing cartons containing blankets is illustrated in the plant of Nashua Mfg. Co. in New Hampshire. The blanket-filled cartons travel on a conveyor until they reach a recently designed rollover machine which turns the carton upside down and sends it on to be automatically sealed.

The rollover unit is operated by means of a depressing device, this same device reversing the machine so that after every other carton it is in its original position. This rolling and reversing process of the machine makes it possible for the loaded cartons to be pushed through continually. Made by **Mathews Conveyer Co.,** Ellwood City, Pa. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3910** when writing

STAINLESS STEEL

A significant recent application of stainless steel is in conjunction with a tank car fabricated of columbium-bearing stainless steel. The columbium content eliminates the possibility of intergranular corrosion when the stainless steel is stress-relieved after welding, and thus facilitates complete compliance with stress-relieving requirements.

The largest plates of the columbium-bearing stainless steel ever made, is said to be used for this application. The car is used experimentally for bulk transportation of high-purity chemicals. Made by **Electro Metallurgical Co.,** 205 East Forty-second street, New York. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3911** when writing

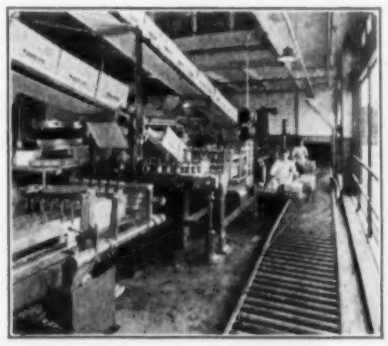
MEASURING SOUND

To reduce noise inside a moving car, engineers must know how much sound there is under various conditions and what causes it. For these reasons, automobile research men by use of a microphone at ear level measure the sound inside a car at many different points while the car is cruising, coasting and accelerating at speeds ranging from 20 to 70 miles an hour. The microphone picks up the sound and converts it into an electrical current. This is amplified and gives a dial reading exactly in relation to the volume of the sound. The readings are listed on the portable adding machine for careful study. Made by **Ford Motor Co.,** Dearborn, Mich. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3912** when writing

BEER CONVEYOR

Illustrated is an installation of roller conveyor for handling cartons of beer in a modern brewery. In the upper left is shown two of the empty carton lines delivering to the case filling machines. Bottles come from pasteurizer through labeling machine and from there into case filling machines. Cases are discharged from the short roller conveyor lines to live roller collecting conveyor shown at the right. This conveyor automatically arranges cases from three case filling machines into a single line going to carton sealing machine.



In general, system consists of the construction of a triple belt conveyor, followed by long radius 3-rail roller conveyor curves built to a steep pitch as is proper for empty cartons, these curves discharging to a triple deck belt conveyor. These three conveyors decline through a floor opening and discharge empty cartons into three similar steep roller conveyor lines terminating in level sections of approximately one carton length. Conveyor units have limit switch arrangements which are so wired that belt conveyors will stop feeding cartons from the above floor when lines are full, and resume feeding when lines are within two or three cartons empty. Made by **Palmer-Bee Co.,** 1749 Poland avenue, Detroit. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3913** when writing

GENERATOR CLUSTERS

Locating Twenty-two P&H Hansen smootharc welding generators in the most advantageous position for use throughout their plant was the job of the management of this company manufacturing tanks, separators, walkways and welded vessels. However, since the organization was started as an electric welding plant, operators have been welding-minded from the beginning and soon adapted a serviceable central setup arrangement for locating their welding machines.

They have placed their 22 welding generators in clusters of five and three, these clusters being spotted in those parts of the plant which are used for assembling the many huge tanks and pressure vessels required.

The illustration shows one of the clusters of welding generators serving as a common source for welding current for several booths at one end of the plant. This type of location also aids in spotting power lines, servicing welders and keeping the plant floors from obstruction. Made by **Black, Sivalls & Bryson,** Oklahoma City, Okla. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3914** when writing

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3726	3763	3801	3837		3911	3951	3991
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	3769	3805	3843	3879	3915	3957	3997
Page 3	3770	3806	3844	3880	3916	3958	3998
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3733	3772	3808	Page 14	3882	3918	3960	
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	3778	Page 11	3852	3888	3926	3966	
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3751	3787		3861	3897	3937	3977	
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3754	3792	3828	Page 16	3902	3942	3982	
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FEB. 1

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FEB. 3

New Literature and Catalogs

ROCKING CONTACT GENERATORS—Leaflet—gives general information on type V-0 and V-1 rocking contact generators—issued by Switchgear division, Allis-Chalmers Mfg. Co., Milwaukee.

Mention Item **NED-3915** when writing

AIR SWITCHES—Bulletin—describes air switches for local or remote control manually, illustrates typical installation—issued by Bristol Co., Waterbury, Conn.

Mention Item **NED-3916** when writing

WELDING PROCEDURES — Bulletin—gives procedures for producing all types of welds in mild steel for welding all metals used to any extent industrially—issued by Lincoln Electric Co., 12818 Coit road, Cleveland.

Mention Item **NED-3917** when writing

BLOWDOWN SYSTEMS—Bulletin—presents treatise on subject of continuous blowdown systems for steam boiler plants—issued by Elgin Softener Corp., Elgin, Ill.

Mention Item **NED-3918** when writing

ROLLER CHAINS, SPROCKETS—Catalog No. 333—gives list prices, dimensions, of standard and non-standard roller chains, stock and made-to-order sprockets—engineering information on selection and application of roller chain drives—issued by Chain Belt Co., 1600 West Bruce street, Milwaukee.

Mention Item **NED-3919** when writing

CHEMICAL PUMPS—Bulletin—describes several improved models of single and multiple unit motor pumps designed for pumping any type of chemical against pressures ranging from 0 to 15,000 pounds—issued by Milton Roy, 2031 East Madison street, Philadelphia.

Mention Item **NED-3920** when writing

BEARINGS, BEARING LINERS—Book—describes various types of engine bearings, bearing liners and bushings, and methods of design and manufacture—issued by Federal-Mogul Corp., 11031 Shoemaker, Detroit.

Mention Item **NED-3921** when writing

PYROTROL—Bulletin—describes control instruments for the protection of gas-fired ovens and furnaces—issued by Bristol Co., Waterbury, Conn.

Mention Item **NED-3922** when writing

TEST FOR BODY OF VARNISHES — 8-page folder—describes air bubble method for determining viscosity or body of varnishes and lacquers—issued by R. P. Cargille, 118 Liberty street, New York.

Mention Item **NED-3923** when writing

CREEP STRESS DATA CARDS — Letter size card—gives creep stress data on various croloys and other materials supplied in tubular form—issued by Babcock & Wilcox Tube Co., Beaver Falls, Pa.

Mention Item **NED-3924** when writing

SPECIFYING METERS—Catalog—describes types of applications and working conditions of specifying meters and regulators for measurement and control of liquified petroleum gases—issued by Reliance Regulator Co., Alhambra, Cal., in co-operation with American Meter Co., 60 East Forty-second street, New York.

Mention Item **NED-3926** when writing

ALLOY STEEL SLING CHAIN — Illustrated bulletin—gives advantages of new nickel-molybdenum alloy used in high strength, heavy duty chains—issued by Joseph T. Ryerson & Son, Inc., Sixteenth and Rockwell streets, Chicago.

Mention Item **NED-3927** when writing

TILTING MIXER — Bulletin 153 — Contains condensed specifications, dimensions — graphically illustrates operating features of the 3½-S tilting mixer — issued by Ransome Concrete Machinery Co., Dunellen, N. J.

Mention Item **NED-3928** when writing

TESTING OF VALVE MATERIALS — Bulletin—contains reprints of recent advertisements to valve users discussing methods of research and production testing of valve materials—issued by Edward Valve & Mfg. Co. Inc., 1200 West 145th street, East Chicago, Ind.

Mention Item **NED-3929** when writing

WELDING AND CUTTING APPARATUS — Two catalogs, No. 21 and No. 22—first publication assists large user of oxyacetylene equipment—22 depicts hand welding and cutting torches, tips and other supplies—issued by Air Reduction Sales Co., 60 East Forty-second street, New York.

Mention Item **NED-3930** when writing

P & H HEAVY DUTY D. C. MILL MOTORS—Bulletin C-4—points out that D. C. mill motors have a full number of interpoles for all ratings—describes in detail the heavy duty efficient construction of these motors—issued by Harnischfeger Corp., 4400 West National avenue, Milwaukee.

Mention Item **NED-3931** when writing

LININGS—Folder—contains information on linings for the chemical and process industries including linings of lead and block tin—issued by Homogeneous Equipment Co., Dowingtown, Pa.

Mention Item **NED-3932** when writing

BITUMINOUS MIXING PLANT—Folder—explains an economical, fast, continuous way for mixing all bituminous materials, with rock sand and gravel—issued by Overmander Machine Co., Marion, O.

Mention Item **NED-3933** when writing

CAR PULLERS, HOISTS, WINCHES — Catalog — contains pictures and descriptions of the different models of car pullers—issued by Stephens-Adamson Mfg. Co., Aurora, Ill.

Mention Item **NED-3934** when writing

BUILDING ACCESSORIES—Booklet—contains detailed information on various products used in the building industry—issued by Ankortite Products Inc., Fourteenth and Chestnut streets, Kansas City, Mo.

Mention Item **NED-3935** when writing

REDUCING SHIPPING COSTS—Folder, "Short Cuts in Shipping" — particularly valuable to shipping manager and purchasing agent as well as to industrial designers—describes cotton bags for packing and shipping odd size machine parts and small articles—upon request for first folder, the company will list you to receive subsequent folders in this series—issued by Ames Bag Machine Co., 1991 East Sixty-sixth street, Cleveland.

Mention Item **NED-3936** when writing

WIRE ROPE SLINGS—Picture book—shows large, clear illustrations of various types of slings—their applications on actual jobs—issued by MacWhyte Co., Kenosha, Wis.

Mention Item **NED-3937** when writing

MODERN PLASTICS—Book, 304 pages—includes recent articles on materials and methods, machinery and equipment, and laminates—detailed directory of chemicals, raw materials, machinery, custom molders, molders' markings, trade names and an alphabetical list of all manufacturers and addresses—issued by Breskin and Charlton Publishing Corp., 425 Fourth avenue, New York.

Mention Item **NED-3938** when writing

AIR PUMPS—Catalog number A-136—contains information on how to select a pump, pumps for air pressure, pumps for vacuum and pumps for gas—issued by Leiman Bros. Inc., 146 Christie street, Newark, N. J.

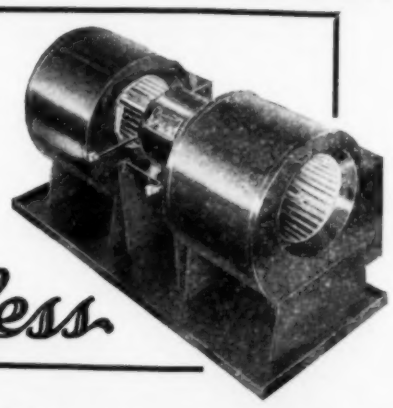
Mention Item **NED-3939** when writing

GLYCO BABBITT—Bulletin, 8 pages—explains the physical structure of Glyco Babbitt with its homogeneity and uniformity of quality—includes applications for the various grades of Glyco carried in stock—issued by Joseph T. Ryerson & Son, Inc., Sixteenth and Rockwell streets, Chicago.

Mention Item **NED-3940** when writing

PORTABLE MIXERS—Bulletin—gives information on both gear drive and direct drive models of portable mixers—issued by Mixing Equipment Co., 1087 Garson avenue, Rochester, N. Y.

Mention Item **NED-3941** when writing



Direct-Drive Blower Assembly with **automatic** two-speed control.

Peerless

ANNOUNCES A COMPLETE NEW LINE OF BLOWER EQUIPMENT AT NEW LOW PRICES

New Automatic Two-Speed Direct-Drive Blowers Eliminate Transformer Controller

Peerless offers a complete, newly designed line of both belt-drive and direct-drive blowers. A **new** line—**new** features—**new** cabinets—**new** low prices. **New** single speed and **automatic** two-speed belt-drive blowers with no pulleys to change. **New automatic** two-speed direct-drive blowers with a choice of two of three speeds or, on de-luxe models, a choice of two of eight speeds. Prices of direct-drive models surprisingly low. New Price list now available. Write for your copy today.

THE PEERLESS ELECTRIC CO., WARREN, OHIO

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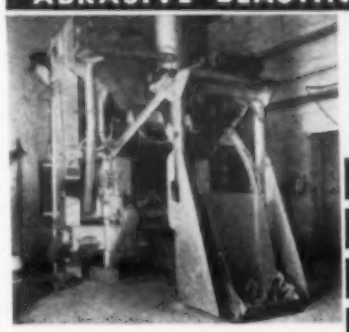
How You Profit with

AIRLESS WHEELABRATOR ABRASIVE BLASTING EQUIPMENT



Cleaning grey iron castings in a 36" x 42" WHEELABRATOR Tum-Blast

For Cleaning
CASTINGS • FORGINGS
HEAT-TREATED PARTS
STAMPINGS and other Similar Products

IMPROVED FINISH
MUCH LOWER COSTS
BIG POWER SAVINGS
FASTER PRODUCTION
FLOOR SPACE CONSERVED
CLEANER OPERATION

WHEELABRATOR cleaning eliminates costly compressed air by using a patented bladed wheel which hurls abrasive with centrifugal force under perfect control.
By radically reducing cleaning costs, (often up to 50% and more); by reducing cleaning time (grey iron castings, for example, are being cleaned in loads of 1000 lbs. in from 10 to 15 minutes, including loading and unloading); by improving the finish (inspection is simplified, and any type of finish desired can be obtained)—these and many more profit-making advantages make Wheelabrator the choice of such concerns as General Motors, Ford, International Harvester, etc.
Made in designs and sizes for every metal cleaning requirement.
Investigate today. Write for Catalog 212.

THE American FOUNDRY EQUIPMENT CO. 508 S. BYRKIT ST. MISHAWAKA, IND.

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for **ASSEMBLING**

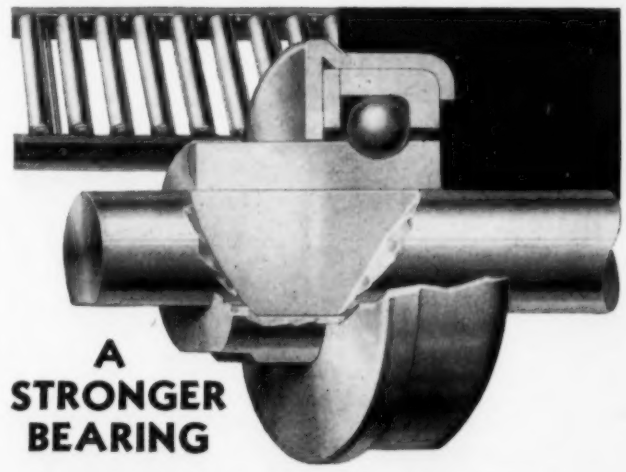
For assembly work either light taps or driving blows use Chicago Rawhide Hammers and Mallets. They have both the resiliency to absorb shock that prevents marring, battering and breaking and the "carry through" that gets work done. Made of tightly coiled compressed, extremely tough water buffalo hide, they far outlast other types of "soft hammers". Balanced heads and shaped handles give them the feel and accuracy of fine tools. Their non-bouncing characteristic prevents fatigue.

MALLETS: 12 sizes, with or without weighted heads
HAMMERS: 5 sizes. Permanent tools with 1-piece heads.

Securely inserted faces are replaceable.
Faces can be purchased from your local supply house.

CHICAGO Rawhide MFG. CO.
1287 ELSTON AVE · CHICAGO · U·S·A·

Mention Item **NED-3943** when writing



A STRONGER BEARING

Impact tests show this Lamson Conveyor Bearing to be three times stronger than many in common use. Outer and inner races are made of heavy hardened stock—each a solid piece. Accurately machined. Free running at all times. Simple and trouble free.

SEND FOR THIS FREE BOOK
It contains complete specifications and illustrations of Lamson Roller Gravity Conveyors. A size for every duty.
THE LAMSON COMPANY, Syracuse, N. Y.

LAMSON *Conveyors*

Mention Item **NED-3944** when writing

THE SELF-ALIGNING
"ALNOR"
PYROCON THERMOCOUPLE
adaptable for
RUBBER, PLASTICS, PAPER-MAKING, LAUNDRIES, MOLD TEMPERATURES, DIE CASTERS, ETC.

Because the "ALNOR" Pyrocon thermocouple is self-aligning, and because it excludes the cooling air, truly accurate readings of mold, platen, or other surface temperatures can be obtained by anyone. It requires no degree of skill or care to use. It insures high accuracy under the most difficult operating conditions. The Pyrocon is only one of a variety of portable and stationary indicating instruments for every temperature application offered by "ALNOR".
Write for Catalog.

Illinois Testing Laboratories Inc.
430 N. La Salle St. Chicago, Ill.

Mention Item **NED-3945** when writing

IF IT'S SCREENABLE,
THE FEDERAL ROCKET VIBRATING SCREEN WILL SCREEN IT!
Here is merely a partial list of its uses » » »

abrasives, aluminum dross, asbestos, bagasse, bakelite, bicarbonate of soda, bone char, cement, charcoal, carbon, chemicals, clays, clinkers, coal dusting, coke breeze, cork, fertilizers, food products, graphites, gravels, gypsum, lime, meat scraps, ores, pigments, ground coal, refractories, roofing granules, salt, sand, sawdust, seacoal, slag, soda ash, soybean meal, stone, sugar, sugar juice, tomato juice, wood chips.

Whatever your screen problem is, we can solve it. The Federal Rocket Screen is simple to install, screens more material per square foot with consistently lower costs. The motor, lubricated for life, requires no attention. Flexible, quiet and efficient, it is the ideal screen for any purpose. Built for separations of ½" and finer. Made in 1, 2 or 3 decks. Write to:

THE FEDERAL FOUNDRY SUPPLY COMPANY
4600 E. 71st ST., CLEVELAND, OHIO
OFFICES IN PRINCIPAL CITIES

Mention Item **NED-3946** when writing

SO LOW IN PRICE
YOU CAN'T AFFORD TO PASS THEM UP

REG. U.S. PAT. OFF.
BERLOY
STEEL NESTING BOXES
11½" x 18" x 6"
11½" x 22" x 6"

● Only because these sturdy steel boxes are made on a production basis with modern equipment can they be sold at their present low prices. Made of 16 or 18 gauge steel... reinforced against abuse... electrically welded... with drop or fixed handles as illustrated... unpainted or in green enamel. If you handle small parts, save money by writing for quotations... NOW!

REG. U.S. PAT. OFF.
BERLOY
STEEL STACKING BOXES
16" x 10" x 6"
20" x 12" x 6"

Berger Manufacturing Division
REPUBLIC STEEL CORPORATION CANTON, OHIO

Mention Item **NED-3947** when writing

New Literature—Continued

DOUBLE FILTER RESPIRATOR — Leaflet — describes and illustrates three different models of respirators—lists prices—issued by H. S. Cover, 111 Chippewa street, South Bend, Ind.

Mention Item **NED-3948** when writing

REFRACTORY MATERIAL—Page for notebook file—gives composition of a new material—tells how to use and lists advantages—issued by Laclede-Christy Clay Products Co., 411 North Seventh street, St. Louis.

Mention Item **NED-3949** when writing

BED PLATES FOR SPEED REDUCER DRIVES—Bulletin 2100—contains separate tables giving dimensions, weights and prices of bed plates for spur gear speed reducers and for type AD vertical worm gear reducers—issued by Abart Gear & Machine Co., 4834 West Sixteenth street, Chicago.

Mention Item **NED-3950** when writing

INSULATING AND CUSHIONING MATERIALS—Catalog 38—a complete catalog of hair felt products for thermal insulation, sound absorption and general cushioning—issued by American Hair & Felt Co., Merchandise Mart, Chicago.

Mention Item **NED-3951** when writing

SEAMLESS METAL BOXES — Catalog — announces the continuance of the manufacture of Myers Labelstik boxes, tin ointment boxes, special boxes and metal specialties under a new organization—issued by George D. Ellis & Sons Inc., 309 North Third street, Philadelphia.

Mention Item **NED-3952** when writing

ROLLER GRAVITY CONVEYORS — Booklet — not only describes and illustrates different models of conveyors and their parts, but also shows and discusses interesting installations of the product—issued by Lamson Co., Lamson street, Syracuse, N. Y.

Mention Item **NED-3953** when writing

AUTOMATIC CONTROL FOR STEAM GENERATING UNITS—Bulletin, 12 pages—Contains problems of boiler control—shows blue print type illustrations—issued by Askania Regulator Co., 1603 South Michigan avenue, Chicago.

Mention Item **NED-3954** when writing

HYDRAULIC RAMS—Pamphlet—gives complete information about the installation, adjustment and maintenance of hydraulic rams—issued by Rife Hydraulic Mfg. Co., 75 West street, New York.

Mention Item **NED-3955** when writing

TURBINE—Booklet 139—features the Smith-Kaplan turbine—treats the subject in a manner that will be clear and valuable to technicians and executives—issued by S. Morgan Smith Co., York, Pa.

Mention Item **NED-3956** when writing

RADIO EQUIPMENT—Catalog K—lists all equipment in such a way as to make ordering easy. Includes descriptions, specifications and price lists—issued by General Radio Co., Cambridge, Mass.

Mention Item **NED-3957** when writing

ENGINEERED LIGHTING—Booklet—shows the various types of graphic arts industries—shows also how good lighting promotes efficiency in each job—lists types of lights and lighting fixtures—issued by Fostoria Pressed Steel Corp., Fostoria, O.

Mention Item **NED-3958** when writing

PRESSURE INDICATOR — Leaflet — lists the features of this instrument and tells how it works—includes illustrations—issued by Bachrach Industrial Instrument Co., 7000 Bennett street, Pittsburgh.

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FEED WATER REGULATION — Bulletin S-20-D — contains information on automatic feed water regulation for cost reducing, efficiency and safety in boiler water level control—tells of new simplicity in excess pressure regulation—issued by Swartout Co., 18511 Euclid avenue, Cleveland.

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ARC WELDING—Book—includes 109 of the more important papers submitted in a $200,000 award program—costs $1.50 postage prepaid—issued by James F. Lincoln Arc Welding Foundation, Lincoln Electric Co., 12818 Coit road, Cleveland.

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ROTAMETERS — Catalog — describes the precision bore process and rotameters with precision bore tubes—issued by Fischer & Porter Co., 100 West Penn street, Philadelphia.

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HEATING APPLIANCES — Catalog — describes improved designs of small appliances—each appliance is shown and its specifications listed—issued by American Gas Furnace Co., Spring street, Elizabeth, N. J.

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FILTER PAPER—Folder including sample of paper—introduces Shark Skin, a new filter paper for industrial use—advantages discussed—issued by Carl Schleicher & Schull Co., 167 East Thirty-third street, New York.

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MECHANICAL IMPROVEMENTS • INDUSTRIAL LITERATURE
NEW PRODUCTS AND MATERIALS

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February, 1939

What Have You?

NED is eager to publish descriptions of all new equipment, materials and allied products of use in manufacturing plants and processes. NED'S editors cordially invite you to send in your announcements of such developments, addressing your communications to the Editor. NEW EQUIPMENT DIGEST, Penton building, Cleveland.

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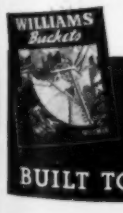

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STEEL STAMPS—Catalog 63—contains general information on different types of steel stamps and other markers—issued by Pannier Bros. Stamp Co., 207 Sandusky street, Pittsburgh.

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CONVEYING GRANULAR MATERIALS, LIQUIDS—Catalog—tells pictorially and graphically what the conveyor is, what it does, how it works and how it acts—issued by Johns Conveyor division of Osborn Mfg. Co., 5401 Hamilton avenue, Cleveland.

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CRAWLER TRACTORS—Digest—Shows features of design of Cletrac tractors—individual illustrations of each part of the machine—diagrammatically explains each one—issued by Cleveland Tractor Co., Euclid & East 193rd street, Cleveland.

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BLOW-OFF VALVES—Leaflet—gives descriptions of double tightening blow-off valves for oil field boilers for working steam pressures up to 400 pounds—issued by Yarnall-Waring Co., Chestnut Hill, Philadelphia.

Mention Item **NED-3975** when writing

REPAIR CLAMPS AND SADDLES—Catalog 38A—Pipe, repair clamps and saddles, valve and bibb reseaters are presented as permanent repairs for steam, hot or cold water, gas, oil ammonia or brine lines—issued by M. B. Skinner Co., South Bend, Ind.

Mention Item **NED-3976** when writing

LAMINATED PHENOLIC PRODUCTS—Attractive booklet—Dilecto, a laminated phenolic material is discussed—purpose of discussion is to acquaint men in industry with its properties—issued by Continental-Diamond Fibre Co., Newark, Del.

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GIANT UNIT HEATERS—File number 30D-11—discusses giant unit heaters classified as to motor control, damper control or valve control—discusses usage for rapid uniform heating of large areas—issued by Warren Webster & Co., Seventeenth and Federal streets, Camden, N. J.

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CENTRIFUGAL PIPE LINE PUMPS—Bulletin W-318-B1B—contains diagrams of two types of pipe line pumps with the interstage loop—various specifications are listed—issued by Worthington Pump and Machinery Corp., Harrison, N. J.

Mention Item **NED-3979** when writing

PIPE TOOLS — Catalog 38 — presents various pipe tools, describing their use, their specifications, and their advantages—issued by Beaver Pipe Tools Inc., 370 Dana avenue, Waren, O.

Mention Item **NED-3980** when writing

HANDEE TOOL—Booklet—illustrates some of the 1001 uses for this tool—lists in catalog form other products of the firm—issued by Chicago Wheel & Mfg. Co., 1101 West Monroe street, Chicago.

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THERMOIL-GRANODINE—Folder—describes in full a process which protects iron and steel machine parts against friction and corrosion—applications in industries are numerous—some applications shown on the back of the leaflet—issued by American Chemical Paint Co., Ambler, Pa.

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ALL PURPOSE BLOWER — Bulletin — introduces a suction cleaner and sprayer that combines the utility of two blowers into one versatile portable tool—issued by Clements Mfg. Co., 6650 South Narragansett avenue, Chicago.

Mention Item **NED-3983** when writing

PLAIN AUTOMATIC MILLING MACHINES—Folder—includes general information, specifications and dimensional drawings of several types of milling machines—issued by Cincinnati Milling Machine Co., Marburg at South street, Cincinnati.

Mention Item **NED-3984** when writing

RADIATION PYROMETER—Catalog 100 gives principle of operation, directions for using and special features of the instrument—issued by Pyrometer Instrument Co., 103 Lafayette street, New York.

Mention Item **NED-3985** when writing

HIGH TEMPERATURE CEMENT — Catalog H. G. 501—contains information on Hytempite, a plastic, air setting high temperature cement for bonding refractory brick and shapes—issued by Quigley Co. Inc., 56 West Forty-fifth street, New York.

Mention Item **NED-3986** when writing

METAL PARTS WASHING MACHINES—Folder—discusses features of different types of machines and illustrates them—issued by G. S. Blakeslee & Co., Cicero station, Chicago.

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UNIT HEATERS—Bulletin S327—contains solutions to heating problems of many types of buildings—gives descriptions of numerous unit heaters — issued by Trane Co., LaCrosse, Wis.

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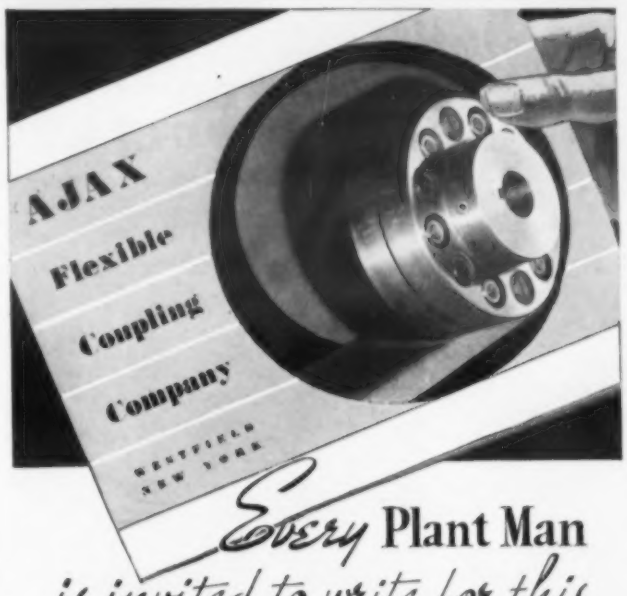

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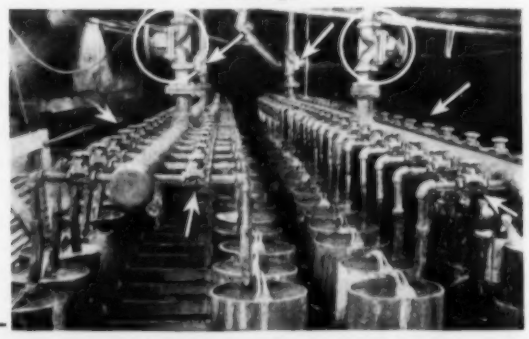

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VALVES FOR HEATING SYSTEM

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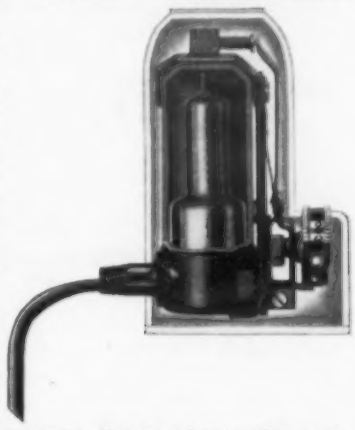
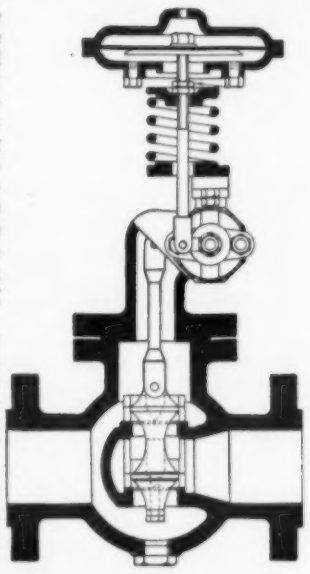


By setting the adjustment, any temperature between 60 and 80 degrees Fahr. can be maintained in any room without the necessity of overheating or open-the-window cooling. The air valve can be installed in a few minutes time without costly changes to the heating system. Any fuel can be used. Made by **Sullivan Valve & Engineering Co.,** 915 South Arizona street, Butte, Mont. For convenience, use blank between pages 4 and 5.

Mention Item **NED-3993** when writing

PRESSURE REDUCING VALVES

A complete line of pressure reducing valves have been introduced. The valves can be utilized either for steam or water pressure reducing service. The units are of the direct-operated, spring loaded type and are available for controlling pressures from 2 to 1500 pounds. However, some of the units are also available equipped with a relay-operated, spring loaded mechanism.



Where remote control of the pressure reducing station is required there also is offered 3 master controls to cover a controlled pressure limit of 2 to 600 pounds gage. Made by **Northern Equipment Co.,** Grove avenue, Erie, Pa. For convenience, use blank between pages 4 and 5.

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By timing a single operation this illustrated time study watch will determine the number of operations performed in a given time. It can be

used in factories where output of machines is constantly watched, and where it is necessary to determine the number of operations per hour or per day.

The dial of the watch is divided into hundredth parts of a minute so number of operations a machine performs in an hour may be easily found. When operation is too short to be timed separately a number of operations may be timed, and then the number which can be performed in an hour reckoned from the result. Made by **Clebar Watch Co.,** 551 Fifth avenue, New York. For convenience, use blank between pages 4 and 5.

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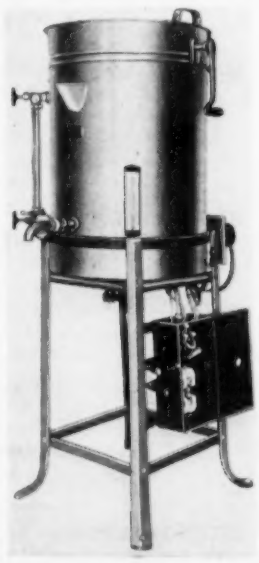

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A thermostat maintains the fixed temperature of the glue. Water temperature is indicated by a thermometer whose bulb projects into the water chamber. The unit also is supplied with a noncooling quick acting draw off valve so located that drawing of glue is a simple matter.

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